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1864

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CAGE AND SINGING BIRDS:

MUS. COMP. ZOOLOGY,
CAMBRIDGE, MASS.

HOW TO

CATCH, KEEP, BREED, AND REAR THEM.

WITH FULL DIRECTIONS AS TO

THEIR NATURE, HABITS, FOOD, DISEASES,

ETC. ETC.

1855–

BY H. G. ADAMS,

AUTHOR OF "FAVOURITE SONG BIRDS," ETC. ETC.

A New Edition, with Illustrations.

LONDON:
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PREFACE.

THERE are few persons who have not, at some period or other of their lives, nourished and cherished a feathered pet. Very many there are who delight to have one or more of these sweet denizens of the fields and woodlands constantly about them, either to gratify their sense of hearing with melodious song, or that of sight, with grace of form and motion, or richness and harmony of tints delicately blended, or strikingly contrasted. Whether it be to amuse the vacant hour by an observation of the pretty tricks and endearing familiarities of the little prisoners; to instruct the inquiring mind by a study of the manners and habits of this interesting division of animated nature; or to satisfy that craving after something to live and care for, which ever possesses the human mind—in either case it may well be presumed that a manual like this, affording every kind of information which may be required for the proper management, whether in health or sickness, of CAGE and SINGING BIRDS, cannot be other than useful and acceptable.

In its compilation the most recent as well as the best established authorities have been consulted, and a large

amount of *practical experience* brought to bear upon the subject, so as to render it as complete and correct as possible.

The information contained in the more bulky and expensive works of Bechstein, Sweet, Kidd, and other authorities, is here presented in a condensed and available form, by one who is himself so great a lover of birds, that he gladly avails himself of this, and every opportunity, of contributing to that kind of knowledge which may tend to render their state of captivity as agreeable to themselves, and as ministrative of pleasure to their possessors, as may be.

HY. A.

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CAGE AND SINGING BIRDS.

SECTION I.—INTRODUCTORY

MODES OF CAPTURE.

A HIGH although somewhat antiquated authority in culinary matters has said, that you must catch a hare before you can skin it; and the universal recognition of this axiom induces us to believe that we shall not be considered out of order, if we proceed first to consider how to catch birds, for caught they must certainly be, before they are kept. Let it not for a moment be supposed that, while conveying these instructions, we are advocating the indiscriminate capture of the feathered songsters. By no means! In order to stand right with our readers, we would at once and emphatically observe, that we consider it cruel and unjustifiable to resort to any contrivance for taking them, unless some better end than mere amusement is to be answered. The man who goes out with nets, and snares, and bird-lime, to plot against the liberty of the free wild creatures, to whom motion and singing is a delight unspeakable, and does this for the sake of pastime, is upon a par with him who sallies forth with a gun on his arm to pop at any and every thing, and call it "sport": they are *arcades ambo*, and fully entitled to Byron's definition of the term.

The most primitive and inartistic mode of bird-catching is that which is familiar to our school-boy days: four bricks and a piece of stick is all the apparatus necessary to form a

trap, into which many a robin redbreast, a cock sparrow, a jenny wren, or other of our familiar winter birds, has been lured by the crumbs of bread scattered at the bottom, to the huge delight of the expectant urchin, who rushes to seize the prize, and in his eagerness most likely lets it escape, or does it some mortal injury. Let us observe here, by the way, that we have no faith in the classical expedient of putting salt on the tail of a bird to effect its capture; we consider this altogether as a "popular fallacy," and reject it accordingly. And now, having premised thus much, we will proceed to discuss the various methods of bird-catching practised by those who do it professionally, and as a means of living. Let it be understood that our directions here have only a general application: under the head of each distinct species will be mentioned the modes of capture best adapted for it.

LIMED TWIGS.—No method is perhaps so commonly employed as this for the taking of birds, especially of the smaller kinds, and those which resort most to the coppice and the leafy woodland. It is, however, a cruel method, and should not be practised in cases where any other will answer; for the plumage of the bird, in its struggles to escape, becomes smeared all over with the lime, and so stuck together that it can scarcely move, and in this state it remains for a long time, never quite getting rid of the annoyance until it has moulted.

The mode of procedure is to procure from a druggist, or grocer, some of that viscid substance called bird-lime, which is prepared from the inner bark of the holly, or the berries of the misletoe. This is smeared over the smaller branches or twigs of the trees or bushes, amid which the birds you desire to capture are known to build or perch; when they alight on these limed twigs, their feet adhere to them, or their wings become glued together by the lime, so that they cannot expand them; they begin to struggle, and the more they do this, the more helpless do they become; in this state they are easily taken, and a deplorable state it is.

In the forests of Thuringia, in Germany, where bird-catching, breeding, and training, are much practised, DECOY BUSHES are often used. These are formed of strong branches of oak

or beech, which are cleared of leaves to within a foot or so of the summit; the upper twigs projecting from them are then split, and in the openings limed rods are inserted. The bushes so prepared are stuck into the ground in some ele vated spot, over which the desired birds usually pass in the course of their migration; and it is curious to remark, says Bechstein, how closely the migratory birds generally keep to a determinate line or path, if one may so speak. Beneath these bushes are placed cages, tenanted by decoy birds, and covered with fir branches, so that neither the occupants nor the passing migrants can see each other; the latter, attracted by the call notes of the former, alight among the limed twigs, from which they are unable to extricate themselves, and so are taken. On elevations adjoining valleys these bushes are most advantageously placed; as, in hilly districts, the birds, in migrating, generally follow the course of a valley. It is best to have for decoy birds those which have been captured when grown up, as those reared from the nest have not the natural call note so perfect as the others, and frequently utter acquired notes, which are strange and scaring to the wild birds.

The best time for employing this mode of capture is in the months of March and April, when the migratory songsters are coming in from their southern wintering places; they are then eager for pairing, and easily attracted by the call-notes of the decoys, which should be females. The early part of the day, too, that is, from the dawning until nine o'clock, should be chosen, for after the latter hour the birds are so fully engaged seeking for food, that they will rarely listen to the calls. In the annual migrations of many of the best songsters it has been observed that the males and females arrive in separate flocks, the former a few days in advance of the latter, therefore such bird-catchers as are earliest in the field are the most likely to secure male birds.

There are several other ways of using the limed twigs, which will naturally suggest themselves to the mind, and therefore need not be described.

The Water Trap.—From some secluded spring or woodland stream, where birds resort to drink, dig a narrow channel into which a portion of the water can flow, and over this, upon half hoops, or bent boughs, resting upon sticks,

about an inch thick, stuck into the sides, and nearly level with the water, spread a net sufficiently large to cover the whole, leaving an opening at the near end by which the birds can enter, but which, by means of a string attached, can be closed at pleasure; you have then only to hide yourself in some neighbouring covert, with the end of the string in your hand, and sit quiet for awhile; the perches beneath the net will soon be occupied by all sorts of birds, drinking, and bathing, and enjoying themselves mightily; you can enclose them whenever you please, and secure such as you require, setting the rest at liberty.

This is one of the easiest and pleasantest methods of making valuable captures; it may be practised from July to October with the greatest success, for at that part of the year shade and water are most frequently sought by the birds; early in the morning, and in the evening just after sunset, are the best times of day. The most advantageous place for setting up a trap of this kind, is a wood bordering on which are meadows, and cultivated grounds, as to such a spot will resort not only the forest birds, but also those which haunt the fields and gardens. When the captives are secured, the tamer sorts, such as goldfinches, siskins, and linnets, should be put into small folding cages, which can be carried in the pocket until wanted; those more wild and shy, like nightingales, larks, bullfinches, must be placed singly in bags made of linen, and lined with flannel so that they cannot injure themselves in their struggles to escape. When brought home they should be placed in muffled cages, and have light admitted to them only by degrees.

The GIN, or SNARE, may be used with most success in the Autumn: it is chiefly employed to capture those birds which feed upon berries, such as thrushes, robins, &c. It consists of *nooses* and *springes*, the former being intended to catch birds by the neck, the latter by the feet; these are made of thread, yarn, or horsehair, the last material being by far the best, on account of its strength and elasticity, which is not affected by wet. Bechstein describes three kinds of nooses employed by the German bird-catchers: 1st, *Rind Nooses*, being the rind of a tree stripped off in July, and plaited into a threefold band, five or six inches long; into this are inserted three loops, each consisting of five or six

horse-hairs twisted together with a knot at the end, which fastens it to the rind band, while the loop hangs down. A small branch of a tree, from which projects at right angles a little stem, is generally chosen for this kind of snare; the bait of service or other berries is placed conspicuously behind the horsehair loops, in which the necks of the birds are caught when they attempt to take the fruit.

2nd, *Twig Nooses.*—To construct one of these take a tough rod of willow, make two holes or slits in the stem or upright branch of a tree about four inches apart, and into these thrust the ends of the rod, which should be of sufficient length to form a kind of half oval projecting about six inches from the tree; two or three horsehair nooses are inserted in the upper side of this, so that they hang down and nearly touch the lower side where the bait is placed.

3rd, *The Hanging Gin* is a rod bent into a triangular form, and hung by the apex to some tree or shrub; it should be about six inches wide at the bottom where the berries are placed, and have a horsehair noose from each of the sides, which may be eighteen inches long or more; this is sometimes called the *Noose Perch*, and does not appear to be a very successful snare, as birds frequently get the berries without being caught. The German naturalist recommends instead of it what he calls *the Entire Twig Gin*, formed of a willow rod, cracked at about eight inches from the thickest end to form the base, the rest of the rod to be bent over, until its smaller termination meets the thick end, into which, by means of a slit, it is inserted, forming a figure something like an old Saxon doorway in a cathedral, with a semi-circular top, by which it is suspended to a tree; the nooses are to project inwards, one from the centre of the arch of the bent twig, and one from each side, so as completely to enclose the berries resting on the straight bottom piece.

Great care must be taken in setting these *gins* that the hair nooses are not bent or twisted out of the proper curve, and in order to ensure this they should be dipped frequently in boiling water whilst being plaited; it is necessary to be careful, too, that the nooses are uniform in size, and fit each other, so that vacant spaces are not left for the bird to escape through.

Of Springes, Bechstein describes two sorts, as preferable to all others: 1st, *True Springes*, formed of a hazel or willow rod, in the thick end of which a notch is first cut, and a hole bored, through which is passed a horsehair or strong thread attached to the thinner ends; in setting the springe the string is drawn about eighteen inches through the hole, into which a peg is then put somewhat lightly, and the string is prevented slipping back by a knot tied in it; hang this to a thick twig or branch of a tree in such a way that it cannot oscillate with the wind, and bait it with service berries if you wish to catch large birds, with elder berries if small; when the bird steps on the springe to seize these, it loosens the peg, the rod flies back, and draws the string tight, in which its legs are entangled.

2nd, The *Up Springe* is the same as the last in principle of action, but the construction is different, being in two distinct pieces, one an upright piece stuck into or growing out of the ground, and the other, which acts as the snapper or spring, is a twig bent down from a neighbouring tree; to this the string is fixed, which is drawn tight and slightly secured by a peg, as before described: this is the kind of springe most commonly used in Thuringia.

The hair nooses may be kept in serviceable order for several years if, when done with for the time, they are carefully wiped, untied, and hung up lengthways, or folded in a large circle. Thread nooses frequently become limp and useless in wet weather; it is then advisable to place a blade of grass between the folds, which keeps them sufficiently open. Nooses of horsehair, or thread, are sometimes hung from the trees or bushes near the ground, in thickets where birds are known to resort, and placed in various positions affording the chance of a capture.

Nets are also used in bird-catching, and other contrivances resorted to, which we need not specify, being, as the auctioneers say, "too numerous to mention."

HABITATIONS.

The first consideration after one has obtained, by capture or otherwise, what is henceforward to be a feathered pet, is how and where to keep it—what kind of a dwelling will best

conduce to its health and happiness? And as this will depend very much upon the particular species of bird in question, a few general rules are all that we can here lay down.

First, let us impress upon our readers the necessity for *cleanliness* and *attention* to the wants and comforts of the little prisoners. If birds are kept in a state of confinement, which is not natural to them, it should ever be borne in mind that they are so for the pleasure or profit of those who keep them, and with whom it ought to be a matter of duty to see that they are properly cared for, and rendered as comfortable as circumstances will admit. It very commonly happens that domestic pets come to an untimely end, and with birds especially is this the case; and how can we account for this, otherwise than by the supposition, that there has been great negligence somewhere? Birds are not naturally tender and delicate creatures, but cage birds generally are so, their artificial mode of life renders them highly susceptible of all atmospheric changes, and liable to diseases with which in their wild state they are never attacked, or if so, their instinct teaches them where to resort for the necessary remedies. How cruel is it, then, if you doom them to confinement, to devote them also to suffering, and probably death, because you will not take the pains to minister to their wants, and protect them from the various casualties which endanger their prison life.

The practice of leaving cage birds to the care of servants cannot be too strongly reprehended; by these they are generally considered as a trouble and a nuisance, and their destruction, if it be not hastened, is seldom guarded against, for "the sooner they are out of the way the better." Let the lady feed and tend her pet canary, or other sweet songster, herself *regularly;* ay, let her clean out its cage, too, or, at least, *see that it is done*, and so repay in some slight degree the debt of gratitude which she owes the bird, kept a prisoner for her gratification.

These remarks have been forced from us by a keen sense of the wrongs and injuries to which our feathered friends are constantly subjected, arising from an observation of the vast amount of unnecessary suffering entailed upon them by carelessness more than heartlessness. We are persuaded that

many of the tears which have been shed over dead birds, have proceeded as much from contrition for neglect, as from sorrow for the loss sustained; and our fair readers will, we trust, pardon us if we remind them, in the words of Thomas Hood, that—

> "Evil is wrought by want of thought,
> As much as by want of heart."

We have here alluded to the *cleaning of cages*, and may, therefore, as well dispose of that part of our subject at once. If you keep but one bird in a cage in very hot weather, it is best to perform this operation every day; do it carefully and gently, taking out the sliding bottom which all cages should have, removing the dirt, washing it if necessary, drying it by the fire, or in the sun, and then replacing it sprinkled with clean river sand, which, under the name of bird sand, may be bought of grocers, oilmen, or dealers in birds. Your frequent ministrations to its comforts, if gently performed, will attach the songster more closely to you, and render it extremely familiar. If you reside in the country, and cannot easily procure the sand above described, some taken from the bed of a river and dried, or even fine loamy earth, will do; it is not only useful to absorb moisture in the bottom of the cage, but also to aid digestion, for which purpose the bird instinctively swallows a portion, hence the necessity for being careful that no marine sand is used, as the saline particles would be prejudicial to the bird.

Where a number of birds are kept, let the cages and perches of such as feed on insects or fruit be cleansed, at least, every other day. Of this kind are blackbirds, thrushes, robins, nightingales, and what are generally called the soft-billed birds. Canaries, finches, and others which feed chiefly on seeds, need not be disturbed above twice a week. It is of great importance to see that the perches are kept clean, as otherwise the feet of the birds which rest on them will become affected with gout, and other maladies, terminating in loss of the toes and permanent lameness, if not in death. Even in birds of the same genus, there is often a great difference in respect to cleanliness of habit; some soil their toes and plumage much more than others, and, making no effort to clean them, require to be frequently washed; this is

very much the case with the larks and warblers; the buntings, finches, and thrushes, have not this fault. Some birds thrive best in a room fitted up for their especial use, having young fir-trees placed about it, especially in the corners, or evergeeen branches of some kind; they should be cut for this purpose not later than March, before the sap rises, otherwise they will cast their leaves. Generally speaking, birds do not sing so well at large in this way as in small cages, where they have nothing to occupy their attention but their song. More will be found about the bird-room under the head of "Canaries."

Of Wooden Cages, those are decidedly the best which are made of mahogany, as they are less likely to harbour insects than any other. If fir or any soft wood is the material, it should invariably have two or three coats of paint over it; green is the best colour. The wires of a cage should never be painted, as, the metal being non-absorbent, the colour will generally loosen and peel off after a time, and being swallowed by the bird, will cause its death. In the Zollverein department of the Great Exhibition there were some cages of a novel construction, being made of japanned zinc: these appeared to us in every respect very superior to wooden cages, being easily cleaned, and light and elegant in appearance. The projecting bottoms have a rim or ledge round them, which keeps the dirt and seeds thrown out by the bird from making a litter; they are simply fastened to the upper part by hooks, or catches, and so are easily removed for the purpose of being cleaned. There are places in London where these cages can now be obtained, and we would recommend them to all who study the health and comfort of their feathered captives. They are, perhaps, a little more expensive than other kinds of cages, but their durability renders them economical in the end. We do not in general admire the gaily painted and gilded prisons in which birds are frequently kept, because it too often happens that the comfort of the inmate is sacrificed for the sake of show; still we have seen some very pretty things of this kind, to which no objection could be made.

Most commonly the sides of cages are too open. A bird, however tame and familiar, likes to have a snug corner or other sheltered place, to which it can occasionally retire, and

shun observation. The practice of hanging larks and other birds out at a window in a small cage open on all sides, and so fully exposed alike to the burning rays of the sun and the chilling winds, cannot be too strongly reprehended. Great suffering must be at times endured by the little prisoners, whose exposure, when in a wild state, to the atmospheric influences, is counteracted by the exercise of limb and muscle, which it is unable to take in the cage; this, therefore, should always be covered at the top when the sun is shining very brightly, and muffled at the side on which the wind sets with green baize, or other thick material, in dull and gusty weather. In wet weather the cage should not be put out at all, except now and then during a gentle summer shower, which is likely to be succeeded by sunshine.

Among the materials for bird cages we have heard glass suggested, and we see not why it should not be employed with advantage. Most ladies like to see their feathered pets, and how delightful to have them in a miniature crystal palace, where their every motion could be watched! The material is capable of being wrought into such beautiful forms and combinations, and is so cheap; surely the idea, in this age of art-manufactures, is worthy of a practical application. For young birds, which are apt to hurt themselves against the wires by frisking and sporting about, a NET CAGE should be provided. This can easily be made of an old common cage out of which the wires have been taken, and a covering of fine net substituted.

What are called SCHOOL CAGES are sometimes used for a number of birds. These are boxes, having a wire front, and solid back and sides, divided into a number of compartments, each of which is tenanted by a single bird, to which access may be obtained by means of a little door at the back of its dormitory. There may be several tiers of these apartments, and a single sliding bottom and feeding trough does for each tier, going through the whole length: thus, where it is desirable to economize space, they may rise one above another like a nest of drawers, and form a sort of bird-barracks. A single preceptor, a good lark or nightingale, may be the drill sergeant for the whole company of occupants, however numerous; the little pupils, not being able to see

each other, will be all the more likely to give due attention to the music lessons.

A STORE CAGE, with wooden back and sides, wire front, and cloth or calico top, made about two feet long, and six inches high and wide, will be found useful to put newly caught birds into; having no height to fly, they cannot well hurt themselves.

THE AVIARY.

This should be a building erected expressly for the purpose, and fitted with a stove and pipes for conveying the heated air through every part of it, so as to keep up an even temperature through the most inclement weather. The best materials for its construction are iron and glass, resting on a basement of brick or stone: the recent application of the two former of these materials to hot-houses, conservatories, and other structures of combined use and ornament, proves their perfect applicability to this purpose. The best kind of floor is, perhaps, an earthen one, beaten hard, like the floors of some barns; bricks are too cold. Planks would do very well if care is taken to keep them sweet and clean, so that they could not harbour insects nor retain disagreeable smells: one disadvantage attending the use of a wooden floor is that it is likely to form a covert for rats and mice. The roof of the aviary should be semicircular, or shelving, with vines or flowering creepers trailing over it, so that there shall be a rustle of green leaves steeped in sunshine, and air laden with sweet perfume, to delight the birds within. The building should face to the south or south-west, and open upon a green lawn, shrubbery, or garden. Within, around the sides and up the centre, should be dwarf shrubs and creepers for the birds to nest and build in. Perches and little wicker baskets, with horsehair, wool, and other building materials, should be placed at various altitudes; and if there could be a small fountain playing in the centre, with a basin for the songsters to bathe and drink at, the water of which would be constantly changed and fresh, we should have a perfect home of song, an abiding place of beauty, love, and happiness! This, our *beau ideal* of an aviary, could not be accomplished but by wealthy bird-fanciers, and we set it up as

a standard of excellence to be imitated as closely as circumstances will admit.

Kidd recommends that an aviary should consist of two divisions, an inner and outer; into the former of which shall be put, as the winter approaches, the insectiverous or soft-billed birds, which are more tender and susceptible of cold than the graniverous or hard-billed. The warblers are all insectiverous birds, and require great care and attention during the cold weather, not only with regard to the temperature in which they are kept, but also as to diet, of which we shall have to speak more at large under its proper head. The authority last alluded to wages uncompromising war against what he calls "mechanical aviaries;" that is, certain spaces fitted with ornaments and cunning devices, such as wind and water mills, cottages, &c., with a view to picturesque effect, to heighten which song birds are introduced. We, too, would enter our protest against these puerile contrivances. Make an aviary as pretty as you will, but let the ornaments be really natural; introduce a little rock work, with mosses and lichens, in whose tiny cups the spray of the fountains may glitter; let the eye be deluded by optical deceptions which increase the apparent size of the structure, and double the number of its inhabitants; but do not shut up your sweet songsters in a picture box, where all is artifice, and contrary to their nature and inclinations. In *Kidd's Own Journal*,* will be found very minute directions for constructing an aviary. Many of these directions are no doubt good, but as a whole, the affair seems to us too ponderous and expensive; and it is scarcely recommended as a model by the unfortunate termination of his experiment, viz., the destruction of nearly all his songsters by rats, which, with cats, are the greatest enemies to be guarded against. A layer of rough shingle beneath the flooring, whether it be of earth or boards, or tiles, as in Kidd's aviary, has been recommended as effectually preventing the former of these four-footed intruders from effecting an entrance by burrowing; and if stone, iron, and glass, be employed for the frame of the building, there is no other way by which they could get in. If it should be thought desirable to cover the glass at

* Nos. 44, 46, 48, 50, 52.

night, and thus give additional security to the birds, sliding shutters of wood might be fitted to the interior, and drawn backwards and forwards at pleasure. Spaces like windows should be left free from glass, and covered only with a network of wire, through which the captives could communicate with their friends at liberty, for whose accommodation a ledge should be fixed outside the window. The removal of the warblers into the inner and warmer compartment should generally take place in August, shortly before the period of migration, at which time the majority of birds in confinement manifest an extraordinary degree of agitation, frequently stretching their wings and endeavouring to soar upward, and sometimes killing themselves in their efforts to effect their escape. It is best, then, to keep them in cages darkened and muffled, so that they cannot hurt themselves.

So exceedingly sensitive are the lungs of the feathered songsters, that a very slight impurity of the air, especially when the temperature is at all varied, will suffice to cause them great uneasiness, if not actual stoppage of the respiratory organs; therefore it is not safe to introduce into the aviary any close stove from which carbonic acid or other noxious gas could arise. It is best to have the warm air conducted in pipes from some adjoining building, where there is an open stove. Great care should be taken, too, in sweeping or cleansing to avoid raising much dust, and to exclude damp and fog, especially from the warblers. Kidd recommends that the fountain should be of zinc, about eighteen inches in circumference, with a turn-over top, and sides gradually shelving downwards to the depth of about four inches, with a pipe to carry off the waste and foul water below, and one leading from a cistern above to supply the fresh, so that the birds can stand under it on pieces of coral, stone, or crystal rock, and perform their ablutions, which they do with great regularity and apparent pleasure. This authority also directs that the hoppers or food troughs shall be made of mahogany, on the principle of a rack, having a moveable slide of transparent glass in front, and a lid with hinges at the top. All along the front of these hoppers there must be a projecting ledge, or rail, on which the birds sit while feeding, and underneath round holes through which they put their heads to obtain

the seed. As the latter is cracked and eaten, the hulls fall to the ground, and a fresh supply descends from above, the apparatus being self-supplying. Four of these hoppers are to be suspended on the wall, between and on each side of looking-glasses, recommended to be fastened to the back of the aviary. They should be regularly emptied and cleaned out twice every month, as a quantity of dust is apt to collect in them: if kept half filled only, waste is not so likely to occur as otherwise.

The pans for the food of the soft-billed birds must be kept always on the ground; they should be made of glass or china, and be of a square form. The floor of the aviary should be cleaned daily, and always kept supplied with sand, small gravel, and old mortar well dried and bruised.

FOOD.

Of course, in selecting and preparing the food of cage birds, their natural habits must be studied as far as possible, and the great difference which prevails in these renders it impossible that any one form of prescribed diet would be applicable to all. Nevertheless, as these birds are divisible into certain classes distinguished by the kind of substances on which they feed, and as all bird-nature is to a certain extent alike, a few general rules upon this subject may be well and safely laid down.

And first, let us observe, that it is sometimes extremely difficult to get newly-captured birds to eat at all, partly because that which is offered to them is not quite what they have been accustomed to, and partly, no doubt, on account of grief at their loss of liberty, and fear arising out of the strange scenes and circumstances amid which they find themselves. They will not unfrequently refuse to take any nourishment, and will inevitably pine and die if some means are not taken to induce them to eat. Dr. Meyer, of Offenbach, communicated to Bechstein the following mode of getting over this difficulty. Place the bird in the cage in which it is intended to keep it, with plenty of the proper food and drink in open vessels; let it remain undisturbed for several hours; then catch it, and immerse it in fresh water; after which, place it back in the cage, and again leave it for awhile. The em-

ployment of pruning its wings and setting its feathers straight, will divert its attention from the great grief of captivity, and its appetite being sharpened by the bath, there is little doubt that the bird will soon take freely of what is set before it, and become cheerful and animated. Those birds that at first creep into a corner and sulk and refuse their food, are most likely to do well afterwards; those which eat greedily at once of the artificial food, frequently die from the effect of the sudden change of diet, or else the unnatural indifference to the loss of liberty implies that they have some disease which impels them to eat.

Bechstein furnishes us with a rough kind of classification for dietary purposes, which, as agreeing with the general nature of these observations, we quote.

In the *first* class, he places the birds which feed only or chiefly on seeds; such as canaries, goldfinches, siskins, bullfinches, linnets, &c. To the first of these a mixture of crushed hemp and rape, with canary seed, appears to be the most acceptable. To the next two, crushed hemp and poppy seed; and to the last two rape seed alone is recommended. The latter seed, our authority says, should be prepared by placing as much as is sufficient for one day's consumption, in a pipkin, covering it with water, and letting it stand for twenty-four hours exposed to the heat of the sun, if it be summer time; if winter, place it on the hob for a while.

In the *second* class, are placed those birds which feed upon seeds and insects, in which category may be placed larks of all kinds, chaffinches, buntings, and the whole tit family; some of these also eat berries, as do several of those placed in the former class; the first and second of the birds last mentioned have a decided preference for rape and cabbage seed, mixed now and then with hemp; the buntings the same, without green food, which the others should occasionally have; to the tits give fir and hemp seed, hazel and other nuts, oats, barley, wheat, and occasionally a little fat meat. Birds of these two classes are not generally difficult to preserve in confinement, unless captured during the pairing season, in which case they frequently pine and die.

In the *third* class are placed those kinds which feed on

berries and insects, such as nightingales, thrushes, redbreasts, black-caps, and most of the species commonly included in the genus *Sylvia*, the warblers, to which Sweet has paid especial attention. He recommends that a general food for these tender and delicate songsters shall be prepared thus :—Hemp seed soaked in boiling water and bruised small, mixed with about an equal proportion of scalded bread, and made up into a moist paste, care being taken that there is no salt in the bread; this should be mixed fresh every morning, and when given to the birds, should have put with it a little raw lean meat, which they will sometimes eat by itself, rejecting the paste; at other times they will take the paste alone, being somewhat capricious in their tastes and appetites, which must be humoured. As a change of diet, yolk of egg should occasionally be given, boiled hard, and crumbled small; one egg will be found sufficient for twenty birds for a single day, that is, with the other food.

In the *fourth* class are placed those birds which feed upon insects only, that is, from choice, and generally speaking a little fruit; other soft substances they also sometimes eat as a change, or when their favourite food cannot be procured; these are the wagtails, the chats, and some of the warblers, and for these snails, worms, crickets, cockroaches, &c., should be obtained; a bake-house is a good preserve for this sort of game; the maggots of the blow-fly, and the white grub of the cock-chafer, are much relished by these birds; they should be procured late in the autumn, and put into pots of turfy mould, and placed in a cellar or other cool situation; they should be cleaned from the dirt when given to the birds, which are also very fond of ants' eggs; of these a good supply may be obtained at the proper season from any ant-hill, and kept in earth for occasional use.

Here are Bechstein's directions for procuring a good supply of

ANTS' EGGS.

A fine breezy day in summer is chosen; and, provided with a shovel, we begin by uncovering a nest of the large wood ants *(Formica rufus)*, till we arrive at the eggs; these are then taken away and placed in the sun, in the middle of

a cloth whose corners are turned up, over little branches well covered with leaves. The ants, in order to protect the eggs from the heat of the sun, quickly remove them under the shelter which is prepared for them. In this manner they are easily obtained free from dirt and from the ants too. It is a good plan to dry these eggs, in order to store them for the winter, and this may be done by putting some sand into a frying pan, laying the eggs on it, and placing the pan over a slow fire, keep it there until the sand is so hot that the finger cannot be borne in it; stirring should be continued during the process; when it is finished, eggs and sand may be put away together in a jar.

This is how to procure a store of

MEAL WORMS.

Into an old jar or box put some pieces of leather—part of a worn-out shoe will answer the purpose—or some pieces of thick brown paper; fill up the receptacle with a mixture of barley-meal and bran, or indeed farinaceous meal of any kind will do. The miller or baker from whom you procure this will be able to supply you with a handful of meal worms, which throw into the mixture; tie down with a cloth, and put the whole by for five or six months; if the covering is moistened occasionally, the live stock within will increase all the faster. Stale ship biscuit, moistened and put into a covered vessel in a warm place for a few weeks, will also afford a supply of these worms.

FLESH MAGGOTS.

Take a stale fish, piece of meat, dead cat, dog, or any small animal, and hang it up in a shady place, until it becomes maggoty; then place it in a box or tub half filled with earth. In a week or two the maggots bury themselves in the earth, and may be dug up as wanted; the maggot preserve should be kept in a cool place; the birds will not eat this kind of food until it is cleaned; this is best done by putting the worms to crawl in bran for a short time.

The various species included in the fourth and fifth of the above classes, are called soft billed, in contradistinction to

the hard billed birds, which feed upon grain and seeds chiefly; they are many of them very difficult to rear, requiring great care and attention, which they will repay with their melodious song. The Honourable and Reverend William Herbert, an authority on this point, objects to milk, which Sweet recommends to be given occasionally, for all except blackcaps, which he says do not appear to suffer from it; this is but a negative kind of praise. He also says that a boiled carrot or beetroot, mashed and moistened, is good for these birds, and that they are very fond of it. Boiled cabbage, or cauliflower, green peas, all sorts of pudding, and a little finely-minced cooked meat, may also be given at times with advantage. The standard food, however, is hempseed, ground, which may be done in a coffee-mill, and bread crumbs scalded and mashed up together; these birds are also fond of ripe pears, currants, cherries, honeysuckle, privet, and elder berries, but the latter are objectionable, because they stain the cages.

Speaking of milk as an article of diet, Professor Rennie says, that he has sometimes given it to the blackcap and other birds as medicine, with manifest advantage. Food with pepper in it, or in any way highly seasoned, is injurious to most cage birds, except parrots, and to these should only be given now and then, or in cases where ordered medicinally. Stale food is to be avoided like poison; no more than is required for immediate consumption should ever be put into the feeding vessels, that is, of a moist nature. Green food is good for all birds as a change, but too much should not be given; it is cooling, and also relaxing; fresh water or other cresses, chickweed, groundsel, summer cabbage, and lettuce, are the best kinds.

Bechstein gives the following receipt for the preparation of

A GENERAL FOOD.

Take of white bread a sufficient quantity to last your birds for three months; let it be well baked, and left to get stale; then put it again into the oven, and thoroughly dry it, so that it can be powdered in a mortar; put this powder by in a dry place, and every day for each bird take out a tea-

spoonful, pour over it three times as much cold or lukewarm milk—this will form a stiff paste, which must be beaten up smooth. For delicate birds, such as the nightingale, sprinkle over this dried flies, or meal worms, cut small—these will tempt the birds to eat the paste, which having tasted they will be fond of. This authority also gives directions for the preparation of two other kinds of general food, which we subjoin.

UNIVERSAL PASTE, NO. 1.

Take a stale well-baked white loaf, put it into fresh water, and leave it there until perfectly saturated, then press out the water, and pour boiling milk over the bread; then add to it about two-thirds of barley, or wheat meal, tolerably coarse, but free from husk or bran: mix, and use as required.

UNIVERSAL PASTE, NO. 2.

Grate a carrot (which may be kept in sand in a cool place the whole year through), and mix it with some white bread, about the quantity of a penny roll, previously soaked in fresh water, and squeezed dry; add to this mixture about an equal quantity of the No. 1 paste, and incorporate the whole well together by means of a pestle and mortar.

The author observes of both these pastes, that they ought to be made fresh every day, as they soon become sour, an objection, we may notice, to which all moist preparations are liable. He also states that he gives his birds, of which there are generally from thirty to forty of various kinds in possession of one room, the paste No. 1, on which they thrive so well and seem so happy, that no one would suppose them to be captives: the food is put out in an earthen vessel, at which about half of them can feed at once. A little hemp, poppy, and rape seed, and a few ants' eggs and bread-crumbs, are occasionally added as a treat.

We have now, we believe, given all the general directions that may be required under this head. In our remarks upon the several species will be found particular directions for the kind of food especially adapted for them. Many pages might be filled with recipes for pastes and other dainty preparations,

for almost every bird-fancier has his favourite ones; but a careful perusal of what we have written and quoted upon this subject, will enable our readers to judge for themselves what is best for their feathered pets to eat, drink, and avoid.

BREEDING AND REARING.

Those who breed and rear cage-birds, especially of the more tender and delicate kinds, must make up their minds to bestow much time and attention upon them; if they cannot do this they will assuredly fail. The birds must not be left to themselves as in a state of nature; every necessary has to be provided for them, of the right sort and at the right time; they must be guarded against extremes of heat and cold, as well as fright and every sort of disturbance. If they cannot have the range of a room or aviary, with a choice of snug corners, furnished with boxes or little osier baskets, wherein to build and deposit their eggs, a commodious breeding-cage should be provided for each family, and supplied with hair, wool, moss, or other materials used by the little architects. If a single cage is used for more than one pair of birds, it should be divided into compartments, otherwise it is likely that the males will fight and destroy the eggs, or disturb the sitting hens, and so render all hopes of progeny futile. Much judgment is necessary in selecting the food of the breeding birds, so that it may suit the digestive capacities of the young they are rearing; many die in the nest for want of attention to this. When the parent birds are free, instinct teaches them to select just such food as will answer the purpose; in confinement they must be supplied with the proper diet, as far as close observation and analogous reasoning will enable us to judge. General rules on this head will scarcely be applicable to all cases, therefore we shall only attempt here a slight outline of treatment, to be filled up as experience and the requirements of individual species may dictate.

First, then, let us observe that the room or cage should be made as like to nature as possible, by dressing it with boughs of evergreens; let the cheerful sunbeams stream into it, and the fresh air find entrance; if laden with perfume from some

near-at-hand flower-garden so much the better. When the birds show a disposition to pair, be careful not to intrude upon their privacy more than you are obliged; let them have a plentiful supply of good stimulating food, and clean sand, and fresh water, as well as the building materials before mentioned. Some persons, as soon as the hens begin to lay, take away the eggs one by one, and replace them with little ivory balls, until the full number are laid, when they are all replaced in the nest together; the advantage of this is very questionable; true the young birds are all hatched at once, if hatched they should all be, which is frequently not the case, as the eggs are very liable to be cracked, or otherwise injured by the handling and change of temperature, incident to the removal from and return to the nest. But it is not so in nature; there the young are properly fed, and generally reared, although some of the inmates of the same nest may be several days older than the others. There seems to be nothing in the altered circumstances of the birds to justify this interference with their natural habits; therefore, we would say, put away your ivory balls, and let the tiny eggs remain to take their chance; the parent birds will sit all the closer for being undisturbed by prying eyes and curious fingers, there will be less trouble and annoyance to all concerned, and a greater likelihood of a full and vigorous brood. During the time of incubation, there should be food and drink in abundance placed close at hand, so that when they come off the nest they may at once find what they require, and not be induced to remain off long. Generally speaking, a pair of birds should not be allowed to rear more than two broods in a year, as the work of production and incubation, if carried on longer than is natural, is too exhausting; it is not uncommon for canaries put up for breeding to have three or four broods in a season, but in this case the value of the produce tempts the owner to sacrifice his hens, which seldom live many years, if their powers are taxed too heavily. In our account of the Canary will be found many more directions under the head of Breeding, which are applicable not only to that species, but also to birds generally.

What we shall have to say upon the subject of Rearing will apply more especially to those young birds which are taken wild from the nests; the others may safely be left to

their parents. As a general rule they should not be taken until the quill feathers of the tail are well out, and the others have begun to grow; they are then, as it is called, stump feathered, a stage of their growth which is commonly reached in about three weeks. Some species should be secured earlier, as will be mentioned in the accounts given of them in the second section of this work; but there is always a danger that the change from natural to artificial food will kill them. On the other hand, if left too long in the nest they will be difficult to catch, and when caught will frequently refuse to open their beaks, and take the food in a different way from that to which they have been accustomed, and so perish of hunger. It is best, if possible, to take the nest with the young birds, and let them remain in it suspended within a cage in a warm room. They should be fed for the first week or two almost every hour during the day, and at night covered up with flannel; they will then sleep until the light is admitted to them, which it should not be until their food is quite ready, as a long period of chirping and expectancy will injure them. The smaller and more delicate birds should be fed with a quill, and great care must be taken that they do not hurt their mouths or throats, as in this case they will probably refuse the food altogether. The larger kinds, such as thrushes, may be fed by means of a piece of stick slightly flattened at the end, and pointed, but not too sharply. Small pieces of food at the time should be given, certainly not larger than a pea, and never overfeed them; leave off when they cease to manifest great eagerness for the proffered morsel. The food should be tolerably moist and *quite fresh;* bread and milk, with rape-seed scalded and crushed, will suit nearly all kinds; the insectivorous kinds require scraped meat, ants' eggs, or meal worms, mixed with it, and there are other variations as specified in our accounts of the several species. If young birds are obliged to be left for any considerable time, it is best to cover them and exclude the light; they will then most probably sleep in happy ignorance of its being other than their legitimate time for rest. After awhile, once in two or three hours will be often enough to administe food, and very soon the birds will begin to peck for them selves, and this is a critical period in their lives; they are

often unable to take sufficient nourishment without help, and yet are unwilling to be fed. In this emergency, the introduction of a gentle, kindly-dispositioned old bird has been found useful. A male chaffinch has been known to feed a dozen fledgelings, to which, previous to his introduction among them, he was a total stranger. Young birds frequently get their feathers very much soiled and matted together, notwithstanding all the attention that may be bestowed upon them; a warm bath with a little soap and flannel will remove the impurities. After the operation the birds should be carefully covered up, and placed in the sunshine or before a fire; if they get chilled, death will surely be the result. As, however, the bath tends to weaken the birds, it should be seldom resorted to. Should the nestlings be troubled with vermin, drop on a piece of flannel or soft rag some spirits of turpentine, and fold it closely around the little patient, leaving only the head uncovered; hold it so for the space of about a minute. On taking it off, the insects will be found adhering to it. Destroy the rag, and repeat the application as often as may be necessary.

Young broods in captivity are frequently reared by their wild parents, if placed in a cage where they can have access to them. This plan, however, is not a good one for those which are intended for trained songsters, as they will be sure to practise their natural notes, and introduce them into the artificial song which they afterwards acquire. With some kinds, perhaps, this is rather an advantage, but those who resort to this sort of management, should be aware of it.

TEACHING AND TRAINING.

As it is for their vocal powers that the majority of cage birds are chiefly valued, it is of great importance that they should be properly taught. Artificial songs or strains are most commonly preferred to natural ones, and however much we may in many instances question the good taste of this preference, yet we cannot ignore the fact as it stands, nor can we consider a work like the present at all complete unless it furnishes the bird fancier with some information as to the systems of instruction which obtain in the schools

where feathered pupils are instructed in the shakes, and trills, and quavers, and

> "Notes with many a winding bout
> Of linkéd sweetness long drawn out,"

which go to make a perfect songster—a *cantatrice*, whose thrilling music delights the heart and ravishes the senses.

Something on this head we shall have to say when we come to speak of the canary, which is usually considered as the chief of caged songsters. As an introduction to our general remarks, we cannot do better than quote the observations of a celebrated bird trainer named Lewis de Berg:—"There is neither a lark, linnet, bullfinch, nor goldfinch, but that may be brought to as great perfection in song as the canary finch; but the English do not take the pains a German does. They love to sleep (or, as he might have said, do something more profitable), while the German is tuning his pipe and instructing his feathered songsters. There is more to be done with the lark from two to three o'clock in the morning, than can be done in many months in the daytime, or when the least noise or sound is to be heard but from the instructor; and this rule holds good with all finches. Everything should be quiet but the master. As it is with the human kind, so it is with the feathered: a good master often makes a good scholar, and a good tutor seldom fails in making a good bird. I say, begin with your birds when all is quiet; they will then take much more notice of what you endeavour to teach them. The age for beginning to instruct should not exceed three months. I sometimes begin sooner. I seldom stay less than an hour with each bird. I sometimes use my pipe, sometimes whistle, sometimes sing, but whichever method I adopt, I seldom fail of bringing up birds to please; insomuch that I have often sold a lark for two guineas; a linnet for one guinea; a bullfinch, when it could pipe finely, from five to ten guineas; and a goldfinch from one to two guineas. In short, the whole art of bringing up a bird to sing well depends entirely on visiting him early, and furnishing him the last thing before you leave him with what he is to eat for the day. He should be supplied daily with fresh water in his fountain, and small gravel at the bottom of his cage; but short allowance in

eating is absolutely necessary to make him a good songster. When I come to him in the morning, he is glad to see me; if he is hungry, he will begin to talk to me, and bid me welcome. At first approaching my bird, I very often give him three or four grains of rice which have been steeped in canary (wine). I sometimes add a little saffron or cochineal to the water, according as I find my bird in health and strength, and I seldom fail of being rewarded with a song for my pains. In the general way of feeding the larks, I give a small quantity of bruised rice, with egg and bread, and now and then a few hemp seeds. I feed the smaller birds with rape seed, and a very little canary with it, the latter being apt to make them fat and dull. I give them likewise at times a little bruised rice, which does abundance of service, and most assuredly prevents their falling into scouring, which is the death of many a fine bird. Birds accustomed to this way of feeding are seldom troubled with what is called the pip. They shed their feathers with far more ease than other birds, and are in general much prone to singing, and have a more agreeable note than birds that have not been so trained."

We have in these few remarks, desultory as they appear to be, the whole *rationale* of bird-training—early and regular attendance, gentleness, and kindness. The pupils, while they learn sweet notes, learn also to regard their teacher as their friend: when their lesson has been sufficiently conned, the food for the day is given to them, and seems like a reward for their efforts; they naturally associate the sound of his coming footstep, and his voice, and his whistle, and his bird-pipes, with the enjoyment of such delicacies as canary-steeped rice, and the more solid food which will follow the lesson, and they exert themselves to the utmost to please so kind a friend and bountiful a master. Truly has the ingenious German said, "as it is with the human kind, so it is with the feathered;" bird nature is like human nature, easily drawn by the cords of love, and very teachable under its influence.

Bechstein, we observe, recommends De Berg s condiment for songsters under training. Here are his words: "When I order grains of rice to be given, I always expect the rice has been first soaked in canary wine, and afterwards dried care-

fully for use, though giving a bird a few grains while they are moist with this excellent liquor does very well, but should not be constantly practised. The rice is only to be roughly bruised so as to make it tender, and consequently easier eaten by the birds. I have observed," he continues, "many persons in England give their birds loaf sugar, which is a great error. I advise in its place a small lump of bay salt, or cuttle bone, and now and then a drop or two of the spirits of nitre in their water." He says, too, that "nestling linnets and the canary finch, educated under either the skylark, woodlark, or titlark, will adhere through life to the song of their instructor. To prevent all nestlings from learning the natural song of their parents, remove them out of their hearing, for although they cannot see until the ninth day, they hear from the moment they are hatched."

The Germans are the most extensive and systematic bird trainers, perhaps, in the world, and a description of one or two of their schools would not be without interest; but we scarcely know that it would answer any useful end. The quotations which we have here given from De Berg and Bechstein, together with the directions which will be found further on in our remarks upon young canaries, will, we apprehend, be sufficient for our readers, who should be acquainted with the terms by which birdsellers distinguish the several orders, or classes, into which they divide the songs of birds. First, then, the bird is said to *warble*, or *quaver*, when it always repeats the passages or single notes of its song in the same order, or with but little variation, as do the nightingale and chaffinch; it *sings*, when it utters the chirping or twittering song mingled with more distinct notes, but not in any regular order of succession, as do the siskin and redbreast. It *whistles*, or *pipes*, when its song consists of full, distinct flute-like notes, forming a perfect chain of melody, which may or may not take the form of a certain recognised air or tune, although frequently it does so. Of this we have examples in the trained canary, linnet, bullfinch, and several other birds that have been carefully educated.

DISEASES.

The last scene of all in "this eventful history" with birds, as well as man, is death, and diseases are the gloomy avenues which lead to the place of long and unbroken rest; hence we have thought it well to make a few observations upon bird sickness at the end of this general section, or division, of our subject.

There can be no doubt that birds kept in confinement are exposed to the attacks of a far greater number of maladies than those in a wild state; but we think it should not be inferred from this, that the free bird usually has a longer lease of life than the captive; it is exposed to many dangers and privations, which the caged songster altogether escapes; and great as may be its activity and power of endurance, yet it is so frequently shot, snared, frozen, starved, or devoured by its furred or feathered enemies, that a peaceful and natural termination to its existence must be quite an exceptional case. A life of liberty, then, it should be remembered, is not all song and sunshine, any more than a life of captivity is so sad and pitiable as some would have us suppose. We do not mean to set up this as a plea for the capture and confinement of the sweet songsters of the fields and woodlands; our intention is to show that there is not so much cruelty in keeping birds in cages and aviaries, obnoxious as they may be in this state to numerous ills not natural to bird flesh, as we are frequently told there is. We are willing to concede that it may often deserve the name of cruelty, to deprive old birds of their liberty—to mew up the free rejoicing creature, that has been used to spread its pinions in the golden sunlight, and breathe the fresh air of heaven, far away from the dimmed and polluted atmosphere of towns and cities. We do not advocate the capture of such; give them their life of freedom with all its dangers and privations; they enjoy it, they revel in it, happily unconscious of the doom that may suddenly overtake them. But for young birds that have never experienced these pleasures of freedom, but have been brought up under the care of man; that have learned to look upon him as a friend and protector, and have not learned to provide themselves with the food

which he duly administers to them—these, we say, in a state of captivity, have surely pleasures peculiar thereto, and may without wrong or injury be so kept. All creatures were given by God for the use and pleasure of man, and provided he subject them not to unnecessary suffering, he may legitimately exercise over them that power which is his divine birthright; the canary and the nightingale, as well as the horse and the dog, are his, and if he desires to fill his home with melody, and delight his ear with sweet sounds, when the forest birds are mute, or he cannot go forth to listen to them, surely he may do so without offending the great God, whose all-seeing eye lets not even a sparrow fall to the ground unnoted. Unquestionably he may, but in doing this he takes upon himself the responsibility, too often forgotten, of caring for the little captives, providing for their wants, and attending to their ailments, many of which may be attributed to the artificial diet and mode of life to which, *for his pleasure*, they are compelled to submit. We trust that the few simple directions which are here given will assist him to perform this *duty*, for it is no less. The diseases specified are such as occur to cage birds generally; some birds are more peculiarly liable to certain of them than others, and we have in many instances noticed this in treating of the species. To the canaries, and also to the parrots, we have judged it necessary to append special directions under this head, as the mode of treatment prescribed for them is in some cases different from that recommended for cage birds in general.

THE PIP.—This disease generally proceeds from a cold; its prominent symptoms are a yellow tint at the root of the beak, which is frequently opened; the hind feathers much ruffled, the nostrils stopped up, and the tongue hard, dry, and coated. A pill, composed of butter, pepper, and garlic, should be administered, with infusion of hoarhound, or speedwell, as a pectoral drink; the diet should be warm and nourishing, but not such as is heating to the system, or likely to aggravate the fever with which the poor bird is parched up; oatmeal should be given if the bird's bowels are confined, with a few grains of salt in it. This disease more frequently affects large than small birds, and the most effectual remedy usually practised on barn-door fowl and the like, is to strip the tongue of the outer skin, beginning at the palate; this opens

the pores, and allows the secretion necessary for digestion to flow out; small and delicate birds could not bear the operation.

Rheum.—This also results from a cold; the chief symptom is frequent sneezing and shaking of the head; the best remedies are warmth, a bread and milk diet, and pectoral drink as above.

Consumption is commonly an effect produced by unnatural food, by which the digestive organs are impaired; the symptoms are a falling away at the breast, swelling at the stomach, and moping; the remedies, if any there be, which is doubtful, are iron water, a live spider, which acts as a purgative, good nourishing food, with a little scraped carrot, water-cresses, and other vegetables.

Constipation may be known by frequent unsuccessful efforts made by the bird to relieve itself. If a live spider does not effect a cure, dip the head of a large pin in linseed oil, and introduce into the vent of the bird; this is usually effective—bread and milk should be the food. Bechstein recommends as a laxative the skin of a meal-worm filled with linseed oil and saffron: this is readily swallowed by the patient.

Dysentery.—Birds unaccustomed to the food of the aviary frequently suffer from this disease, which, if not checked quickly, will cause death; the constant evacuation of a chalky looking fluid, which sticks about the vent and under parts of the body and greatly inflames them, is an intimation of the danger to which the songster is exposed. In this case iron water and a linseed oil clyster, applied on the head of a pin, have been found serviceable. Let the food be as natural as possible; warm bread and milk, with hard boiled yolk of egg, is good; the sore parts should be anointed with fresh butter.

Pimples, or Obstruction of the Rump Gland.—This is a gland which forms part of the structural economy of every bird, and is intended for secreting the oily substance required to render the plumage supple and impervious to wet. The bird presses this gland, which is situated just above the rump, with its bill, and the oil oozes out; if this is not done frequently, the opening is apt to get clogged, and there being no vent for the increasing contents of the gland,

it gets hard and inflamed. If you see your bird sitting about with its tail bent downwards, and often turning its head to peck at the hinder part, where the feathers will most likely appear ruffled, suspect that this is the case, and if, on examination, you find it so, rub the gland with some fresh butter and sugar mixed together, at the same time clearing and enlarging the aperture with a needle, or sharp knife. Some persons cut off the gland altogether, but this is a bad plan, for although it effects a cure, it deprives the bird of a useful organ, for want of which at the next moult it will probably die. Bechstein recommend a salve of litharge, white lead, and olive oil, to remove the obstruction; and Tscheiner, another German naturalist, states that this evil may be remedied by puncturing the gland, compressing it frequently, bathing the bird with a syringe, and plucking out some of the tail feathers, in the renewal of which the accumulated fat is absorbed, and the gland sufficiently relieved to resume its functions.

Epilepsy, or Fits, may be caused by an excess of nourishment and want of exercise; birds subject to attacks of this sort are generally carried off by them after a time; they should be picked up directly they fall, and plunged into cold water; if this is not successful, pare one of the nails close so as to draw blood; if possible, open the beak and get down the throat a few drops of olive oil, mixed with sherry wine. Some persons pull out a pinion feather, but we doubt the benefit of this; if the bird recovers from the fit, keep it upon low diet, and give it plenty of cooling and relaxing green food.

Moulting may be considered as a disease, although it is a natural and constantly recurring process, by which the bird is divested of its old feathers, and clothed with fresh ones. Warmth and good stimulating diet is the best mode of treatment; there is no such critical period in the life of a bird as the moulting season, and extra care and attention is required to carry it safely through: in weakly birds, which are deficient in vital energy, the fresh plumage is sometimes very slow of development—in this case, a little sherry wine occasionally blown over the body will greatly assist the process. More remarks upon this subject will be found under the head of Canary, and elsewhere.

Sore Feet are generally caused by want of proper attention to cleanliness: they should be at once seen to, or they will become incurable, and endanger the life of the bird. It is best to bathe them in lukewarm water, so as to remove all impurities; if there are any wounds, anoint them with fresh butter, or salad oil, repeating the application until they are healed. Every year the thick scales in front of the legs become loose: they should then be removed, but so carefully as not to break the skin.

Tympany consists of a puffing of the skin over a part or the whole of the body. The distension has a transparent watery look, and the remedy which naturally suggests itself is undoubtedly the best, viz., a slight puncture by means of a needle. The fluid is soon got rid of, and the bird is usually as well as ever directly after. The cause of this complaint has not been at all clearly ascertained.

Twirling or Giddiness.—This should, perhaps, be considered rather as a bad habit than a disease, but it sometimes leads to serious results, therefore every effort should be made to counteract it. Seed-eating birds are more especially subject to this affection, frequently turning over and falling off the perches, though not in a state of insensibility as in epilepsy. It seems that the birds twist their necks so far back as to overbalance themselves; occasionally they twirl round two or three times before they fall. As soon as this bad habit is noticed, cover up the top of the cage, so that nothing can be seen beyond, to cause a stretching upward and backward of the neck of the captive.

Parasites.—Birds that are infested with lice or mites are restless, and may frequently be observed, especially at night, picking about various parts of their bodies. Those parts where the vermin are most likely to lurk should first be syringed with water in which a little quicksilver has been allowed to remain for some hours, or with a weak infusion of tobacco: some recommend fumigation with this herb, but the inhalation of it by the bird, which can hardly be prevented, must prove prejudicial. Frequent bathing, great attention to cleanliness, both as regards the cage and its inmate, and a daily supply of fresh dry sand, are also necessary to effect the ejectment of these troublesome visitors. A cage of which they have once taken possession is, however,

never entirely freed from them, and it is best to get rid of it. If you cannot do this, wash it often, sprinkle the joints and crevices with turpentine, or a weak solution of white precipitate powder, taking care not to put the birds into it for some hours after the application is made. With this solution also, should the vermin prove obstinate, the body of the bird may be washed at those parts which cannot be reached by its beak.

Corpulence.—Birds in confinement, and this is especially the case with some species of warblers during the autumn, often become uncomfortably fat, owing probably, in a great measure, to the want of sufficient exercise. Dried ants' eggs put into the drink, and scraped carrot mixed with the food, will tend to check this disposition to obesity.

Pairing Fever.—Usually about the month of May, when the sexual desire is strongest, birds that are confined in cages and denied its indulgence, are attacked with this malady: they cease to sing, and sit moping with ruffled feathers; refuse their food, and sometimes pine and die. This is the true "love sickness," and anything which may serve to divert their attention from the silent sorrow which consumes them is good. Place them in the cheerful sunshine; tempt them with dainty morsels of food; sing and whistle to them, and, above all, remove them out of sight and hearing of any hen birds of the same species which you may possess. Entire change of scene often does much in these cases. Send the despairing lover to visit a friend at some distance: if you are a town dweller let it be into the country that the bird is sent, and he will most likely soon recover.

SECTION II.

SPECIES.

It will be most convenient for our present purpose to arrange the birds on which we have to treat in groups or families, in accordance with their natural affinities, having regard more particularly to the nature of their food, and mode of treatment in captivity. Any strict adherence to a merely scientific arrangement would scarcely be looked for in a work like this, and it would be objectionable for several reasons.

Let us then proceed to describe our first family, that of the

WARBLERS,

Included by some naturalists in a distinct genus under the term *sylvaa*. These are all what are called insectiverous, or soft-billed birds, and are mostly only summer visitants in this country. Generally speaking they are very difficult to rear and keep in a state of captivity, and therefore require an extraordinary degree of care and attention. An eminently musical family of birds are these warblers; sweet feathered choristers are they all; but the sweetest of all, crowned by general consent as the very queen of song, is

THE NIGHTINGALE.

This is one which requires a very careful study of its wants and habits, and an exceedingly tender and delicate mode of treatment, to keep it healthy in a state of confinement.

It is a migratory bird, and generally arrives in this country about the middle of April; the males preceding the females

by a week or so, hence bird-catchers are always on the look-out for the first arrivals. They are easily taken in a trap baited with mealworms, or some other living insects, planted near their favourite haunts, which are groves and coppices, usually in a low sheltered valley, watered by a gentle stream, where the ground is moist and insect food abundant. In these places they are caught in great numbers as soon as they arrive, so that the bird marts of Whitechapel and Seven Dials are for a time stocked with sweet songsters, for which purchasers are soon found. Five shillings is the price commonly asked for a good healthy male nightingale that has become in some degree habituated to his imprisonment, and shows no disposition to sulk or mope, as many of them will do. A purchase should by no means be concluded until the bird has been heard to sing more than once, and its motions watched somewhat narrowly, as there are "tricks in all trades," not even excepting bird-selling. It would be well, if possible, to get the songster on trial for a short time, to ascertain if the change of situation affected him, as nightingales are capricious birds, and if "put out," will sometimes remain obstinately mute, and pine away and die, as it would seem, of grief and vexation of spirit. They will sometimes, also, when first taken, pour out their lives in melody—actually kill themselves with singing what appears to be a passionate complaint of their ill-starred fate. A very loud and incessant songster should therefore be cautiously approached; better wait, and see if the fit lasts. In abundant seasons a good male bird may sometimes be bought for 2*s.* 6*d.*; the price varies from that to 7*s.* 6*d.*, according to the size and appearance of the bird, and the quality of the song. More than the minimum price should not be given for hens, which are sometimes wanted for stocking aviaries. None but a connoisseur can distinguish a full grown male from a female nightingale, except by the song: the shape of both is slender and elegant, the legs long, generally rather more so in the male; the beaks narrow and pointed; the plumage of the upper part of the body of a grayish brown, with a slight rusty tinge, which, in very old birds, becomes more of an ashy gray. Towards the rump the brown tinge deepens and inclines more to red. The breast and sides are pale gray; the pinion feathers grayish brown, with a rusty yellow mar-

gin; the larger wing coverts are of the same colour, with dirty white tops; the tail feathers, which are broad and straight, and easily broken, are of a dingy rust colour; the legs and feet are a brownish flesh colour; and the irides grayish brown. These are all sober tints, but being harmoniously blended, they produce on the whole a pleasing effect, which is heightened by the elegant shape and graceful motions of the bird, so that, apart from its powers of song, it is a very desirable occupant of the aviary.

Bechstein says that the female redstart is often sold for a nightingale, and he points out some peculiarities by which the two birds may be distinguished. The former bird, he says, is not so large, nor is the general colour of her plumage so dark. Her feet and beak are black; the former more slender in make. The tail is of a brighter colour, except the two centre feathers, which are black or dark brown; it is also longer and thinner than that of the nightingale: it is, too, almost incessantly in motion, while that of the latter bird is only jerked now and then, and is generally elevated above the tips of the wings. Moreover, the gait and whole bearing of the nightingale is more proud and dignified than that of the redstart: it moves slowly, and, as it were, with due consideration.

Only two or three instances, we believe, of the nightingale's being induced to breed in confinement are upon record, and few would care to take the necessary trouble, for the rare chances of success. The thing is possible, but so improbable, that we need not dwell upon the means by which it has been brought about; such, however, as wish to make this experiment, will find a detail of the *modus operandi* in *Kidd's Journal*, vol. i., p. 283. The editor of this work, William Kidd, an enthusiastic lover of song birds, and of the nightingale especially, tells us how the Whitechapel bird-catchers "meat off," as they term it, newly-caught nightingales:—"Some fresh raw beef is scraped, and being divested of all fibrous substance, it is mixed into a soft paste with cold water and hard-boiled yolk of egg. This is put into a large bird-pan. In the midst of this food is placed a small inverted liqueur glass, with the stem broken off. Under this glass are introduced three or four lively mealworms, whose oft-repeated endeavours to escape attract the attention

of the bird, which, not understanding how they are placed beyond his reach, continues to peck at them until he tastes the food and egg which has been rubbed over the sides of the glass." Finding this palatable he eats on, and so acquires a taste for artificial food, which he afterwards takes eagerly when it is offered to him. This will afford a useful hint to the amateur bird-fancier; to the "professional" it will be nothing new.

Young nightingales are excessively difficult to rear unless the old birds can also be taken and induced to act as nurses, which they will sometimes do. The best food for them is ants' eggs, mixed with crumbled and moistened white bread, in about equal proportions; or chopped mealworms may take the place of the ants' eggs, or the yolk of a hard-boiled egg: sometimes the bread may be soaked in milk, and squeezed dry. The nest of the nightingale must be sought for in the neighbourhood of woods and coppices, among the thick underwood, or in shrubberies and gardens; it is generally placed more than two feet from the ground, and not often above four or five: the eggs are of a dingy green colour. If the nest and young are taken and placed in a trap cage near the spot, the old birds may generally be captured also. As soon as possible they should be put into a cage lined with calico or cloth, as they are at first very violent, and will probably kill themselves in their efforts to escape otherwise. On the bottom of the cage strew ants' eggs, meal-worms, white bread crumbs, and sand; give them also a supply of water, and leave them alone for awhile; then place the nest with the fledgelings close to the wires outside, and retiring out of sight of the prisoners, watch if they feed their young; should they do this, the birds may be shortly all placed together in a breeding-cage, and if plentifully supplied with food and kept quiet, matters will no doubt go on satisfactorily. If, after waiting some time, you find they will not perform their parental duties, approach the nest gently, with a quill pointed at the end, and picking up a meal-worm, or ants' egg, put it into one of the little gaping bills before you, and continue to do this until all be fed. Perhaps by the time they are hungry again the old birds may have been stimulated to follow your example; if not, it is a hopeless case—the nestlings will have

to be reared by hand, and must be fed every hour during the day on the food above described. If you still keep the old birds prisoners, which you should do, as instructors of the young in singing, let them be fed on fresh ants' eggs and meal-worms, or, these failing, supply their place by roasted ox-heart and raw carrot, both grated fine, and mixed with a few dried ants' eggs, of which every bird keeper ought to have a store. Carrots may always be preserved fresh, if placed in sand in the cellar; a little lean beef, or mutton, free from fat, may be occasionally given with the above. Nightingales are very fond of boiled vegetables and soft pudding, and a little now and then is good for them, as is stale white bread soaked in milk, squeezed dry, and mixed with yolk of egg, or maggots of the flesh-fly, or ground hemp-seed scalded. Spiders, earwigs, crickets, and various insects, may also be given with advantage. Several other kinds of food are used for this bird, such, for instance, as pea-meal and egg, made into a loaf and baked; when wanted for use, it is grated and mixed with dried ants' eggs and water into a paste. In Germany, according to Bechstein, crushed poppy-seeds, mixed with bread-crumbs, are much given, but the birds so fed, he says, generally die of decline. This author gives the following receipt for obtaining a constant supply of meal-worms, which, with ants' eggs, are undoubtedly the food most relished by, and fitted for, the nightingale:—

"Into a half-gallon jar put some wheat-bran, barley, or oat-meal, and a few strips of thick brown paper, or old shoe leather; throw in half a pint of meal worms, and allow them to remain for three months, occasionally moistening the cloth which is tied over the jar with a little beer. The worms will by this time have become beetles, laying eggs, and producing other worms with great rapidity. This will be your reservoir, out of which you shall give to one bird about three every day."

Young nightingales brought up by hand seldom turn out good songsters, unless they are placed under the tuition of old birds of the same species. If a selection is made from a nest of fledglings for the purpose of rearing, it should be borne in mind that those birds with the lightest plumage, and most white about the throats, are the males; before the first moulting they do not resemble the parents, but after-

wards the only distinguishing mark is a yellow feather, or spot, scattered here and there about the head or neck, frequently near the beak and eyes.

The undisturbed possession of a room, into which the sunshine freely enters, and where they can fly about among branches of pine, or some other evergreen, with plenty of find sand, clean water, and appropriate food, are the great essentials to the health and happiness of confined nightingales. Under these favourable circumstances, it is said that they will sometimes breed, though, as we stated before, this is a *very* rare occurrence; if a separate room cannot be afforded them, it is better to put them singly, or in pairs, into cages, which, Bechstein says, may be of any desired form, from twelve to eighteen inches long, from six to twelve inches broad, and about a foot high; the roof should be lined with green cloth, or baize, and the three perches, two near the bottom of the cage, and one higher up, should also be covered with this substance, to preserve the feet of the bird, which are very tender. The water vessel should be placed in a half cylindrical projection, into which the bird can pass for the purpose of bathing, so that it need not wet the bottom of its habitation, which should be covered with a sheet of blotting-paper, the frequent changing of which will remove all impurities. He likewise recommends that the cage should be painted green: care being taken that it is thoroughly dry and free from smell, before the bird is put into it.

It is found that, thus caged, the nightingale will sing better, and more continuously, than when loose in the aviary, where there is much to disturb and attract its attention. It requires to be watched and humoured, sometimes preferring a shady, sometimes a sunny place to sing in; and whatever attentions are paid to it, must be done with gentleness and great caution.

To all birds the moulting season is a period of great trial and danger, and it is especially so to the nightingale, which at that time should be well supplied with the most nourishing food, and kept free from draughts of cold air and annoyances of every kind. A spider or two, now and then, should oe given in this critical emergency, and also when the bird is suffering from a disordered stomach, which may be known by its moping, with ruffled feathers and head hidden under

the wings; in this case, too, a little saffron in the water is beneficial. For those maladies under which the bird suffers in common with other birds, resort may be had to the remedies prescribed in the introductory portion of this work. It is especially necessary to attend to the scales which form upon the legs and claws, and remove them, at least, every three months; this should be done with great care and tenderness.

Nightingales sometimes live in confinement many years, but after the fifth or sixth year their song loses much of its power and sweetness, and is less frequently uttered. The most prudent and humane course is then to set them at liberty. After their migration they are likely to return to the same neighbourhood, with renewed powers of song, and repay this act of kindness with such sweet melody, as made old Izaak Walton exclaim—"Lord, what music hast thou provided for the saints in heaven, when thou givest bad men such music on earth?"

THE BLACKCAP.

This bird is sometimes called the mock nightingale, and possesses, in the opinion of some, powers of song equal to those of the more universally acknowledged leader of the sylvan choir, than which it is much less difficult to rear and keep in confinement. This may be called the English mocking bird, as it readily catches the notes of any other songster which it chances to hear. Sweet says, that he has heard it imitate the nightingale so exactly that even his practised ear was deceived, and also the blackbird, thrush, and greater pettichap, all of which birds differ greatly in the tones and arrangement of their notes.

The blackcaps generally arrive in this country about the beginning of April; they have been heard and seen as early as the 23rd of March and as late as the 15th of October; the old birds are shy and very difficult to catch, but the young ones are easily taken soon after they begin to fly, by means of nets and limed twigs, baited with meal-worms, or maggots: a cherry, a live butterfly, or a green caterpillar, are tempting baits for the adult birds, which must be sought for in much the same localities as the nightingale.

Blackcaps are by no means plentiful birds, and a good cock will fetch as high a price as any songster brought into the market, except a choice canary, a piping bullfinch, or some other highly educated feathered performer; they are about the same size as the linnet: the prevailing colours of the plumage are ashen gray and olive green; it is the male only which has the black covering at the top of the head, from which the name is derived; the head of the female is a reddish brown, and she is generally the larger bird of the two; she also occasionally sings, and hence has been sometimes considered a distinct species, and called the red-capped warbler.

The hemispherical nest of this bird, with its five or six yellowish white eggs, mottled and spotted with yellow and brown, may often be found in a white-thorn, or some other thick prickly bush or hedge, not far from the ground. The old birds feed their young with caterpillars, moths, and other insects; they can be reared on bread and milk without much difficulty, or the same food as that recommended for the nightingales. If brought up near one of these birds and a canary, they will acquire a beautiful song, composed of their own natural notes and those of these brilliant performers. It is not until after the first moulting that the cap, which distinguishes the male from the female, begins to appear; if, therefore, you wish at this early period of life to determine the sex of the bird, you must do as Bechstein recommends, that is, pull out a few feathers from the top of the head; should the bird be a male these brown feathers will soon be replaced by black ones. This bird will sing in confinement during the greater part of the year; it soon becomes familiar, and will readily take to feed on bruised hemp-seed, and bread, if some currants, raspberries, or other small fruit, be stuck into it. Some kind of fruit appears always requisite to keep the bird in perfect health. Elder-berries in the autumn, and privet-berries in the winter, with slices of pine, or soft sweet apple, should be given it, with a few flies and spiders occasionally. If loose in a room, it should have a snug corner with a pine-branch for a perch, but it seems to do best in a cage, which should be tolerably commodious. It has been known to live from twelve to sixteen years in confinement. It is subject to much the same

diseases as the nightingale, but is more liable to decline; ants' eggs, meal-worms, and an iron nail in the water which it drinks, are the best remedies.

THE FAUVETTE OR PETTICHAP, SOMETIMES CALLED THE GARDEN WARBLER.

This is a somewhat smaller bird than the blackcap; the prevailing colour of its plumage is reddish gray, mingled with white and brown, of various shades; it is a plump handsomely shaped bird. Sweet says of its song, that it is scarcely to be surpassed by any of the genus, the nightingale excepted. It may be first heard in our woods and copses towards the latter end of April, soon after the arrival of the bird; beginning very low, with a twitter something like that of the swallow, it gradually rises and swells, until it becomes as loud and almost as mellow as that of the blackbird, like which it continues singing with but little cessation throughout the whole day. It is generally found in gardens and plantations, feeding on fruit and caterpillars, especially those green ones, which are the larvæ of the *Papilio Brassicæ* or cabbage butterfly. It builds generally on trees or high shrubs, some ten or twelve feet from the ground, on which, however, according to Macgillivray, it is sometimes placed; the nest is loosely made of dry grass; the eggs, from four to six in number, are of a dull white colour, dotted with light brown and gray. The young are hatched in about a fortnight, and begin to leave the nest as soon as the feathers appear. The old birds may be caught most easily in July, August, and September, in springes baited with cherries, currants, elder-berries, or almost any soft fruit, of which they are very fond; they may also, says Bechstein, be taken without difficulty in the water-trap, especially from seven to nine A. M., and in the evening, just before sunset. The bird is easily tamed, and will sing, in confinement, nearly the whole year through; it is very greedy, and will sometimes, especially if fed with nightingale's food, die of surfeit. It is a more delicate bird than the blackcap; the term of its prison life, although Sweet kept one nearly double that time, seldom exceeding three years. If fed wholly on the universal paste, its feathers will soon begin to fall off, and the bird will perish

of cold. It is fond of fresh raw meat, both fat and lean, and also the yolk of an egg; the former should be scraped, and the latter chopped very fine, and mixed with some bread-crumbs, or universal paste. Fruit of some kind or other should always be kept in the cage.

THE WHITETHROAT.

This very lovely and attractive bird, which is sometimes called the whitethroated warbler, is considered by Sweet to possess powers of song equal to those of any other bird whatsoever; we should not be inclined to estimate it so highly as this, although we have heard it "discourse" very delightful melody. Arriving in England about the middle of April, the whitethroats disperse themselves pretty generally over the country, and may be heard in most sheltered places, such as woods, plantations, gardens, shrubberies, orchards, &c. The song in a wild state begins with a long piano note, which seldom catches the ear unless one is attentively listening for it; this terminates on a short shrill passage, consisting of several distinct arpeggios uttered rapidly, at the conclusion of which the bird generally springs from its perch, makes a short circuit in the air, and then settles again, to commence afresh. Whitethroats are not difficult birds to catch; the best bait for them is a living butterfly or caterpillar; they soon become reconciled to confinement, and have been known to commence singing the third day after capture. The young may be reared without much difficulty, if kept warm, and fed on bread soaked in hot water or milk, mashed up into a paste with meal worms, ants' eggs, lean meat chopped very small, or yolk of hard-boiled egg; they should be taken before they are fully fledged, or they will be troublesome. The parent birds will generally feed the young in confinement; they may be readily caught by placing the nest, after it is taken, in a trap cage; they will also perform the paternal duties while at liberty, if the young are placed in a cage close by the wires, through which they can be fed, and hung near the spot from whence the nest was procured. Old birds of this species reared in captivity, require a great deal of animal food; insects of all kinds they will eat, and are especially partial to house flies. Elder and blackberries should sometimes be given; those caught when old evince a

WHITETHROAT.—P. 42.

WHEATEAR.—P. 48.

DARTFORD WARBLER.—P. 49.

more decided partiality for this kind of food than others. Care should be taken to let whitethroats in confinement have access to plenty of fine gravel, of which they swallow a considerable quantity; they like to bathe two or three times a day, and in warm weather should be allowed to do so. The diseases to which this bird are subjected are pretty much the same as those of the blackcap; it is a very desirable species, as it appears to be little affected by the cold, and continues in song nearly all the year. A male bird which had been in confinement eight or nine years, continued still as lively, and sung as well as ever. The eggs of the whitethroat are of a greenish white, spotted with olive-green, and dark ash-gray. The nest is built near the ground, among roots of trees and tall grass.

THE BABILLARD,

Sometimes called the whitebreasted or babbling warbler, or lesser whitethroat, abides in this conntry from about the middle of April to that of September. It is about five inches in length, with a long, sharp, bluish black beak. The prevailing colours of the plumage are gray and brown, more or less tinged with red: the outermost feather of each wing has a wedge-shaped white spot, which is somewhat characteristic of the species, although it is not always to be found. There is nothing in the appearance of the sexes to distinguish them, except that the head and feet of the female are rather the lightest in colour; but this difference is so slight that it is not noticeable unless the birds are together.

The favourite haunts of the babillard are gardens, and woods in which there is plenty of thick underwood, and its nest must be sought for in gooseberry or white-thorn bushes, young fir-trees, or low thick shrubs. It is made of fine roots and grass stalks, and sometimes lined, says Bechstein, with swine's bristles. We have never seen or heard of one so lined in this country, although we know that hair is sometimes used. The eggs, usually four or five in number, are of a grayish white, spotted and patched with light gray and brown. Insects, larvæ, and small fruits, are the food of this shy and active little bird in a wild state; may be captured in the same way as the Fauvette, or in severe weather, by clearing the snow from a

space of ground, scattering therein a few meal-worms, and placing limed twigs around it.

This bird has a harsh call note, resembling *klap, klap, klap!* which it is fond of repeating, and hence in Germany has been called the Little Miller; but it is a sweet songster for all that; its notes, though weak, have in them much of melody and variety; Bechstein says, surpassing in these qualities all other warblers; but in this we cannot agree with him. This author describes it as a very delicate bird, but our experience does not lead to such a conclusion. We have heard of its being kept through several winters without appearing to suffer from the cold. This bird may be reared from the nest, and fed upon bread and milk and bruised hemp-seed, with a few insects occasionally. If carefully tended it will become very tame and familiar, drinking milk out of a spoon, and exhibiting the like marks of confidence; and even returning to its cage after being allowed to fly in the garden for awhile, and feast upon the insects. We have known an instance in which the bread and milk plan of rearing has been tried and failed; the brood, three in number, all died. A second experiment, made with four, in which meal-worms and raw lean meat were used, was more successful.

THE ARBOUR BIRD.

This bird is also called the lesser pettichap, and is one of the very earliest of the warblers which visit us in the spring, having been noticed as early as the 12th of March. Although a small bird, being but five inches and a half in length, of which the tail measures two and a half, and delicate-looking, it must be in reality a hardy bird, as it has sometimes to endure very inclement weather after its arrival. On first coming to this country, it resorts to the most forward trees in orchard, garden, or coppice, where it may be seen flying briskly from branch to branch, and picking out the larva of the various kinds of beetles which infest the buds, uttering the while the curious cry, which sounds like *chiff-chuff chivy-chavy*, from whence the country people, in many places, call the bird chiff-chaff; it is also known as the least

willow wren, from the circumstance of its frequenting reeds and rushes by river sides, where willow trees best flourish: this it does for the sake of the gnats and flies which abound there in the summer.

This bird builds a very elaborate nest of birch bark, dried plants, cocoon silk, and wool, edged round the upper mar gin with feathers, and lined with fine grass stalks; the eggs, about five in number, are at first of a light red colour, but become darker after a few days; they are spotted with dark red.

This is a difficult bird to catch, being exceedingly shy; limed twigs round the nest, Bechstein says, is a sure but cruel method: in autumn, springes baited with currants are often successful. If reared from the nest, ants' eggs and bullocks' heart, boiled and grated, is the best food. Care must be taken to keep the younglings warm, and not remove them from place to place, as, if they perceive a difference in their habitation, they will frequently pine and die.

The old birds, when taken, may be turned loose in the aviary; they will readily eat bruised hemp-seed and bread, or bread and milk, especially if some aphides, or other tempting delicacy, be sprinkled over it. Bechstein's account differs from this, as he describes the bird in confinement as rarely eating anything except insects, and only being induced, after much time and trouble, to feed upon the nightingale's food. He speaks of it as not only a handsome little bird, as in truth it is, with its plumes of gray, olive, and yellow, but also a melodious songster, with notes flute-like and varied, some of them being long-drawn and plaintive, others short and sonorous. While singing, its throat is very much distended. Its common call is *Dak-dak! Feed-hoi! Feed-hoi!*

THE WHINCHAT.

Sometimes called the furzechat. This is an active, sprightly little bird, with a song naturally pleasing, though quick and hurried. It arrives in this country in April, and leaves it again somewhat earlier than most of the summer migrants. It generally resorts to the commons and waste places where furze bushes abound; it is also frequently found [illegible] the outskirts of forests, and sides of ravines and

woody declivities: its nest is built of dried grass, moss, and vegetable fibres, and usually lined with feathers or hair, sometimes both; it is placed in a bank, among the tangled roots of thorn, or other bushes, or under the thick covert of the furze or gorse, or in the meadow, closely concealed beneath the rank herbage. The eggs are from five to seven in number, of a greenish-blue colour. The whole appearance of this diminutive songster, which does not measure five inches, including the tail, that being about an inch and a half long, is curious and striking: the breast and all the lower part of the body is a dirty white, powdered over, as it would seem, with red brickdust: the back and wing-coverts are a dark brown, tinged here and there with rust colour, and bordered with black; on each of the latter is a patch of white; the tail feathers are reddish or yellowish white, with edges of black, which is also the colour of the legs, bill, and cheeks; the top of the head is a mottled brown, and a white patch extends from the base of the bill on either side to the back of the head, giving to the bird a frog-like appearance. The female is altogether lighter in colour, and the white patches in the wings are smaller; at each moulting, until the third year, a considerable difference takes place in the plumage of these birds: it is only after this period that the back of the head and cheeks become black, and the white stripe on each side broad and distinct.

This is a bird easily caught, either by means of traps, nooses, or limed twigs; the best bait is some living insect; it is particularly fond of small beetles, earwigs, and butterflies; and food of this kind, occasionally, is absolutely necessary to its subsistence in a state of confinement, where its general food may be bruised hemp-seed and bread, in order to induce it to eat which, when first taken, a few insects must be stuck into the food. It is a delicate bird, and very susceptible of cold, and one, too, which soon acquires the notes of other birds. We have heard of an individual of the species, which sang so loudly as to be quite unpleasant in a room. Bechstein describes it as a quiet, melancholy bird in the house, with a song much like that of the goldfinch, and a call-note resembling the syllables *geu-iza*.

THE STONECHAT.

This bird is one of our earliest summer visitants, arriving generally about the middle of March; its places of resort are much the same as those chosen by the whinchat, and it especially seems to delight in spots where there are stones scattered, or in heaps, ruinous walls, and the like; amid these it sleeps by night, and flits about by day, making a harsh clicking sound—hence its name, stonechat, or chatter. Its natural song is short, lively, and pleasantly modulated, and is often uttered during its flights from one heap of stones or turf to another, or while hovering on the wing over its nest, which is composed of grass, roots, and moss, with a lining of hair, wool, or feathers, and generally placed in a hollow in the ground under a wall or heap of stones, or beneath the furze or bramble bushes: the eggs, five or six in number, are of a light greenish-blue colour, very much like those of the last species. The markings of this bird are decidedly handsome, in some individuals especially so, for they differ greatly, no two ever being seen exactly alike. In the male bird, the head and throat are a fine glossy black, as is also the upper part of the back, where the feathers are edged with yellowish brown, as are those of the wings, giving the effect of bronzing; in the upper part of each wing-covert is a patch of pure white, and also on each side of the neck; the breast is orange, running off into yellowish white towards the vent; the rump is white, with an edging of orange, and the tail feathers like those of the wings.

The bird is about as large as the whinchat; but it has a look of a more bold and decided character. Some authorities doubt whether it is a migratory bird with us; certain it is, that individuals of this species remain through the winter, but that the greater number leave for a warmer climate seems pretty certain. Bechstein says, that the young, if taken, may be reared on ants' eggs, but that the old birds seldom survive their capture long: they must be fed and treated in every respect like the nightingale. In this Sweet agrees with the German naturalist, recommending bruised hemp-seed and bread, mixed up into a moist

paste, with a little lean beef or mutton, cut small, added to it. This should be previously soaked in water. He also recommends for this bird an egg boiled hard, cut in two, and placed in the cage for the bird to pick out the yolk itself. Insects of every kind are good, and the more the bird has the better for its health and spirits. It is a pretty and loud songster, and will sing frequently by night as well as by day, and a good part of the year through. It is also a good mimic; its call notes are *feed!* and *tzerk!*

THE WHEATEAR.

This is a larger bird than either of the two preceding species, which it much resembles in its general habits and characteristics, being shy and retiring, and resorting to the fallow lands and open moors, living, moreover, upon beetles, flies, and other insects, and building its nest upon the ground, under the shelter of gorse and bramble bushes, large stones, &c. It may also sometimes be found in the interstices of ruinous walls, fissures of chalk and gravel pits, and hollows of sand banks, &c. The nest is composed of grass, moss, and wool; and the eggs, five or six in number, are of a delicate blueish green colour. The legs, cheeks, beak, tail, and wing feathers of this bird are black, some of the latter being edged with yellowish brown or white; the upper part of the back, the neck, and top of the head are gray; there is a narrow streak of white over the eyes; the under part of the tail is also white, which gradually deepens into a pale orange tinge, as it extends up the breast and throat, where it fades into white again before joining the black cheeks. A truly handsome and graceful bird is this, and a very lively and interesting species, arriving in this country in March, and leaving it again in September or October, although they have been seen here as late as the middle of November, flying about in search of insects, as brisk and lively as though it had been the middle of summer.

The young of this bird should be taken when nearly fledged, and fed upon bread soaked in boiled milk, made into a soft paste, and mixed with lean raw meat, scraped very fine; or the yolk of an egg boiled hard. Experience goes to prove that they are scarcely worth the trouble of rearing,

GRASSHOPPER WARBLER.—P. 49.

WREN.—P. 51.

GOLDEN-CRESTED WREN.—P. 56.

as perhaps not one good songster may be obtained out of half-a-dozen. Bechstein says, that only a very determined amateur would be at the pains of training a wheatear, taken when full grown; with plenty of meal-worms and ants' eggs, and great attention, it may be kept alive two years. The best diet for it is nightingale's food, with all sorts of insects, but no worms. Crickets and cockroaches the bird appears to be particularly fond of, and these can generally be procured from a near-at-hand bakehouse. The winter song of the wheatear is decidedly the best, and most varied; it is a very sprightly playful bird. Diarrhœa seems to be its most fatal disorder.

THE DARTFORD WARBLER.

A pretty little lively bird this, about the habits of which, either wild or in a state of confinement, scarcely anything seems to be known. Bechstein does not mention it, and Sweet's directions for its management are only conjectural, as he confesses that he never had one. Scarcely bigger than a wren, of elegant shape, with a long graduated tail, and plumage which, although mostly sober gray and brown, is at once rich and harmonious. The Dartford warbler, so called because first found in the neighbourhood of the town of that name, in Kent, may sometimes be seen suspended, with quivering wings, over the furze bushes, in the thickest of which its nest is placed, or darting, quick as light, on its insect prey, in those localities of this country which it is known to frequent. The bird is believed to be a permanent resident with us, and there seems no reason why an attempt should not be made to introduce it into the aviary, where its sprightly motions, and sweet song (which, though weak and hurried in the wild state of the bird, could no doubt be much improved by culture), would form an agreeable variety.

The best mode of management would be that recommended for the chats, to which the furze wren, or furzeling, as it is sometimes called, is nearly allied.

THE GRASSHOPPER WARBLER.

This bird may sometimes be obtained of the dealers, under the name of the grasshopper lark; it is, however, a rare species, and scarcely worth the trouble and attention re-

quired to keep in confinement. Sweet captured an old bird of this species in a nightingale cage, in August, and kept it until the following February, but could not get it to sing. It thrived well on bread and hemp-seed, with yolk of egg and insects; but, being allowed to bathe as often as it liked, it so weakened itself that death ensued when the cold weather came on. These birds build their nests in high grass or sedge, and conceal them very artfully. The eggs are white, freckled with red. They have a curious shrill cry, resembling the chirp of a cricket; hence their common name. The young ones are not difficult to rear: their nest, when taken, should be placed in a little covered basket, nearly filled with dry moss or hay, and they should be fed frequently, with the same kind of food as is recommended for the old birds, care being taken to keep them clean, and add to their food a few small gravel stones occasionally.

THE SEDGE WARBLER.

This is by no means an uncommon bird with us: its time of arrival in the country is the beginning of April, and it departs in September. It is a pert, lively-looking bird, with a tail rather long and slightly rounded. Brown, more or less shaded with black, is the general colour of its plumage; the breast and belly are a yellowish white; across each side of the head runs a streak of white, which takes in the eyes and gives the bird a particularly knowing appearance. Marshes and swampy grounds, where the reeds and rushes form a thick and close covert, are its favourite places of resort; here it hunts for its insect food, and builds its somewhat bulky nest, loosely constructed of grasses, and lined with finer materials of the same nature, and occasionally a little hair; sometimes the nest is suspended between three or four tall reeds a foot or two above the water. It may also be found among willow trees and drooping birches when they grow in situations frequented by the bird; the eggs are of a greenish white colour, dotted and freckled with light brown and gray; they are generally five or six in number.

The song of this bird consists of a variety of notes, some of which are surprisingly loud for such a tiny warbler. It

sings throughout the whole day, and may frequently be heard late into the night with its *chit, chit! chiddy, chiddy! chit, chit, chit!* It may be readily caught in a nightingale trap, baited with a living caterpillar or a butterfly. It is a lively bird, and shows scarcely any symptoms of fear, soon becoming friendly with those who treat it with due gentleness.

It should, when first caught, be put into a large cage or aviary with other small birds, and supplied with plenty of insect food. It may be induced to eat the bruised hemp-seed and bread, by the mixture therewith of flies, caterpillars, and maggots; the yolk of egg, boiled hard and bruised up with water, should be given it occasionally. The bird is very fond of bathing, and, in the summer, may be allowed this luxury *ad libitum;* but in the winter, only once a week, and that in the morning. If properly managed, the sedge wren, as it is sometimes called, will sing nearly all the year through. Bechstein says nothing about this bird.

THE REED WARBLER.

Between this bird, which is sometimes called the reed wren, or the marsh reedling, and the sedge warbler, there is a very close resemblance both in appearance and habits. Brown and yellowish white are the prevailing colours of its plumage, and there is the same streak on each side of the head. It dwells, while here, chiefly among reeds and rushes, by rivers and in marshy places; there it builds its curious nest, shaped like a long bag or pocket, of dried grass and the seed vessels of the tall aquatic plants to which it is suspended, some feet above the ground or water, so that it rocks about in the wind like a hammock; the eggs are greenish white, spotted with olive brown and gray. Bechstein says that this bird may often be caught by taking up a turf, and placing limed twigs over the spot, with a few meal-worms for bait; and, according to Sweet, it may readily be taken in a trap baited with a small moth or green caterpillar, especially about August and the beginning of September, when it resorts to the gardens and dung-heaps, where the house flies, of which it is very fond, are coming out of the pupa state in great numbers. When first caught, thi

warbler should be put into a cage with some tame birds, or, if confined by itself, it should be placed near a cage with another in it, as being wild and restless, without feathered company, it will seldom live. It will soon become reconciled to its fate, and will grow in time very sociable and familiar. It must be tempted to eat the bruised hemp-seed and bread, by insects sprinkled over it; when accustomed to this, there is no more trouble with the bird. Like all the warblers, it requires a good proportion of insect food, and is fond of yolk of egg. It delights in bathing, and should have plenty of water for the purpose if the weather is warm, but not otherwise, except just now and then. At the season of migration, these birds, like many others, become very restless, and will frequently injure themselves in attempting to escape; they should, therefore, be carefully watched: at such times it is best to have the cage or room in which they are confined, darkened for awhile, till the restless fit is over. Bechstein describes this species as a rather agreeable songster, with a melody like that of the arbour bird, though scarcely so full and rich: it is almost free from those harsh wiry notes which grate on the ear in the song of the sedge warbler, like which it sings both early and late in the day.

THE WILLOW WARBLER,

Or willow wren, arrives in this country towards the end of April, and remains till the end of September. It inhabits woods, thickets, and gardens, and may be found in most localities; it builds a neat nest of moss and leaves, lined with feathers, and arched over; this is generally placed in the lower part of a thick bush, or among the tall grass beneath it; the eggs are six or seven in number, spotted with violet on a whitish ground. If any young birds are taken to rear, those which have the yellowish plumage should be selected; the best food for them is bread and milk, with ants' eggs, so says Bechstein, who describes it as a clean lively bird, with most attractive manners and an agreeable song; its call-note, *hoid! hoid!* is almost constantly heard. It is a good fly-catcher; and after making a dart at one of these insects, always returns to the perch to eat it. To accustom the bird to the common food of the aviary, a few flies should be mixed therewith: it is fond of ants' eggs

both fresh and dry, soon becomes accustomed to the hemp-seed and bread or the universal paste, and appears less delicate than many other birds of its genus. In spring it may be best taken by means of limed twigs, baited with meal-worms; in summer by the water-trap, and in autumn by nooses baited with blackberries, of which, in a wild state, it is very fond. One likely mode of capture, is a trap, in which a fine caterpillar has been placed, or a rose branch covered with aphides, a favourite food of the bird. It has been described as very tame in confinement, taking flies out of the hand of its master, drinking milk out of a spoon which he held, perching on his finger, and giving other tokens of confidence and affection; it is fond of nestling up to the other birds for the sake of warmth, and its song is so loud and shrill that it may be heard above all the others; it sings, too, the greater part of the year through. Mr. Sweet had a hen bird of the species which sang very frequently, but her strain was different from that of the male.

In the plumage of this bird, which is sometimes called the hay bird, there is a tendency to green and yellow in the tints, which distinguish it from the hedge and bush warblers, to which, in its markings and general conformation, it bears a considerable resemblance; it also has the curious white patch on either cheek, which seems to be almost characteristic of one division of the warbler family.

THE WOOD WARBLER,

Or wood wren, as this species is frequently called, is a very beautiful bird, about five inches and a half long, of a slender and graceful shape. In the green tint of its plumage it resembles the willow warbler; but the markings are more distinct; the edgings of the wings and tail-feathers are clearly defined; the throat and neck, and sides of the head, are of a bright sulphur yellow; and the breast and under part of the body of a pure white. The term elegant is the most appropriate that could be applied to this bird, which makes, perhaps, the shortest stay in this country of any of the warblers, arriving about the middle or end of April, and frequently leaving again by the end of August. Bechstein does not mention the bird; but Sweet speaks of it as by no means uncommon here during the

period mentioned. He says that he has never observed it in any other situation than amongst tall trees, or woods and plantations, where its presence may be readily detected by its shrill shaking kind of song, which is unlike that of any other bird, and may be heard at a great distance. It sings nearly all day long, except when engaged in feeding its young, when it may be discovered by a mournful kind of call, quite peculiar to the species. Led by this call we may, by cautiously approaching, find out the nest, which is generally placed on the ground, in a thicket of tangled bushes. It is built of moss and dried leaves, and covered over the top, so that one may almost tread upon it without observing the little structure, in which, at the proper season, will be found some five or six eggs of a white colour, dotted with purplish red. The young birds may be reared by hand without much difficulty, if taken when almost fledged, placed in a basket with covers, nearly filled with moss, and fed upon meat, bread, and bruised hemp-seed, with which should be mixed occasionally some small bits of raw lean meat; by way of variety a little bread and milk, and yolk of egg, should sometimes be given, and a drop or two of water be let fall into their throats. They must be kept clean and warm; and, as soon as they are properly fledged, fine gravel must be mixed with their food; this supplies the lime necessary to harden their bones, and prevents the liability to cramp. No bird of the warbler genus is better worth keeping than this; it feeds readily upon the hemp-seed and bread, with raw lean meat; also on bread and milk and yolk of egg, and is fond of flies, moths, caterpillars, aphides, and most other insects.

There are several other song-birds, which are placed by some naturalists under the generic term *sylvia;* but which are not generally considered to belong properly to the warbler genus. One of the most familiar of these is,

THE COMMON WREN,

Of which no description is necessary, as everybody knows the pert little Jenny, with her cocked-up tail, and busy inquisitive look. Not every one, however, has seen her nest, although many have; and such as wish to do so must

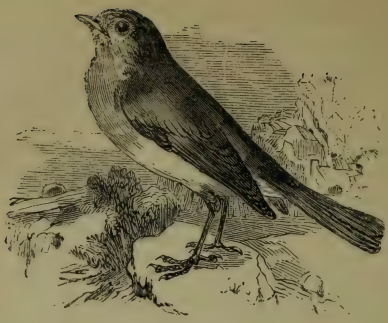
seek for it in the crevice of an old wall, the hole of a bank, or a hollow tree. Amid closely-twisted ivy stems, under piled logs of wood, or heaps of stones, it may be often found; and although it is well concealed, yet a little patience will enable you to detect its whereabouts, if there are young birds in it, for the parents, one or other, will keep passing in and out with food for the clamorous chirpers. The nest of the wren is of an oval shape, with the entrance at the side; it is generally built of moss, and lined with feathers; the eggs are about eight in number, of a pure white colour, sparely dotted with light red. Young wrens should be taken when they are stump-feathered, as they leave the nest before they are fully fledged. They must be carefully covered up, for they are delicate birds, and a chill will most likely be fatal to them; they should be fed on white bread, soaked in boiled milk, with a few meal-worms or ants' eggs. After a while they should be put into a net cage, and, when old enough to feed themselves, into one made expressly for such small birds, with the wires very close together. The same food as above will do for the birds when full grown; also hemp-seed and soaked bread, with raw and cooked meat, boiled carrot or cauli-flower, and an occasional feast of elder-berries, and other pulpy fruits.

In autumn, says Bechstein, old wrens are frequently caught in springes baited with elder-berries, and in winter in a tit-trap baited with meal-worms. Sweet advises a limed twig on the end of a fishing-rod, and as these birds allow of a very near approach, this mode is often successful. As soon as caught, the wrens should be fed on meal-worms and elder-berries sprinkled over the nightingale paste, which, by this means, they will be brought to like. They do best several together in a large cage, or at liberty in a room, in which, during the winter, there should always be a fire by day. A number of small boxes, nearly filled with fine moss, placed about the room, make good sleeping-places for them. The wren in confinement is a lively and engaging bird; it sings loudly, and nearly all the year, though it seldom lives more than two years.

THE GOLDEN-CRESTED WREN.

This diminutive songster, which is the smallest of European birds, is, like the common wren, a permanent resident with us; it is to be found chiefly in the dark pine woods and plantations of larch trees, spruce firs, and the like, where it suspends its beautiful nest to a bough, generally far up, and amid the long sweeping foliage, which effectually conceals it from observation. One must be a good climber to have a chance of obtaining the nest of the little lively gold-crest, whose motions are so quick and restless that one seldom obtains a good view of him in his sylvan home; he has a coat of olive green, and on the top of his head are some flame-coloured feathers, bordered on each side by black; the hen bird has more of sober gray in her plumage, and her crest is not so deep of colour; she lays seven, eight, or nine, very tiny eggs, of a delicate flesh colour, in her warm thick nest, closely woven of moss, and lined with the silk of cocoons, down of the thistle, and other soft substances. The best chance of rearing the young is to treat them in the same way as those of the common wren. If the old birds can be limed on the nest, or otherwise caught, you will only have to supply them with food and they will most likely do well.

Young gold-crests should not be fully fledged when they are taken, or they will prove very troublesome. Bechstein says that they are easily reared on meal-worms cut small, flies, ants' eggs, and wheaten bread soaked in milk; and he recommends as an easy mode of catching the old birds, a limed twig on a rod, as directed for the last species. They come, he says, in great numbers to the water-trap, and by their repeated cry of *tzitt! tzitt!* indicate the approach of sunset. He tells us, too, that although delicate birds, they will yet, when used to confinement, live long in that state. Insect food is absolutely necessary for them, and care must be taken not to make their food either too moist or too stiff: neither must they be allowed to touch rape or camelia seed, as either of these would immediately kill them; a greenhouse well warmed and ventilated, or a trellised inclosure with a small pine tree in the centre, is a good place for them; they look pretty in a bell-shaped cage, and this



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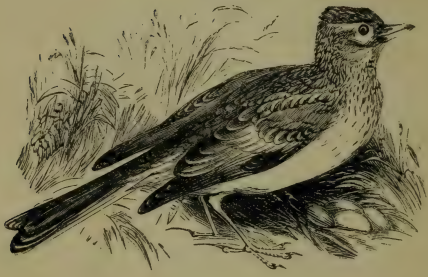


SKYLARK.—P. 59.

TITLARK.—P. 63.

seems to suit them very well. Wherever they are, warmth is a great desideratum for these lively and interesting little birds, which are melodious although winter songsters, capital fly-catchers, and the sprightliest creatures in existence. It is well to give them a lump of fresh earth once a week to pick about.

THE REDBREAST.

This is another very common bird, which we need n trouble ourselves to describe, for old and young, rich ana poor, are alike familiar with the robin,—"the household bird with the red stomacher." This is one of the birds which does not properly belong to the warbler genus, although called by some naturalists *sylvia rubicula*. It is so tame and familiar a bird, even in its wild state, that few care to keep it in confinement. It comes and goes in and out of the house as it pleases, and sings its native wood notes wild, and feeds close to our doors and windows without fear or suspicion. We can hear its sweet and well sustained warble almost whenever we please, be it summer or winter, without the trouble of rearing it; and see its little compact form and crimson breast any day of the year, without the necessity for shutting it up in a cage or aviary. Let it go abroad and enjoy itself with its feathered congeners; let it make love, and fight, as it will be pretty sure to do, for a pugnacious fellow is Bobby; let him make a feast of insects, or earthworms, or berries of some sort, when he can get these dainties, and when he cannot, let him come to you and be fed with crumbs, and the refuse of your table; let him and his plump little bride build a loose nest of lichens, and lining it with fine grass, hair, or feathers, place it in some snug out-of-the-way hole or corner on the ground, may be in a deserted mole-hill, or rabbit burrow, or under a heap of stones, or among tangled roots, and then, in due course, if you peep in cautiously, you may see four, five, six, or seven tiny eggs, of a yellowish white colour, spotted and striped with orange, and tinged with light brown at the thick end. By and by these will be gone, and you may count in the place of them as many little moving lumps of yellow down, that keep opening their beaks and crying "give! give!" as plain as they can speak. When these are more fully fledged

they will be of a gray colour, with just a tinge of yellow, and not till after the first moulting will they become red on the throat and breast, and look, indeed, like robins. If you are determined to take them and make prisoners of them, do so; tend them carefully, feed them upon bread soaked with milk, with some chopped earth or meal worms, and place them, when old enough, under the tuition of a nightingale, and they will make splendid songsters. And if you will attempt to capture the old birds, these are the methods which are most likely to be successful. Should it be in the spring, insert sticks, to which limed twigs are attached, transversely into the hedge, then drive the birds gently towards them; or, better still, place a decoy in a cage on the spot; or clear a space of grass, and place limed twigs over it, dropping in meal worms for bait. At this season, too, the nightingale, tit, or water trap may be successfully used. In autumn, set springes, baited with elderberries, but be careful to remove the bird as soon as possible after it is caught, or it will get injured in the struggle for freedom. Robins may also at this season be readily caught in trap cages, especially if a decoy-bird is used. Bread crumbs, meal or earth worms, and elderberries, if in season, should be given to these birds when first caught, afterwards they can live on the common aviary food; they thrive best, however, on that recommended for the nightingale. Care must be taken not to put two male robins together, as they will be sure to fight until the weaker is killed. They require plenty of water, being fond of bathing. Those which are confined in cages sing better than those turned loose in the aviary; almost any kind of cage will do for them. They become very tame, and may be taught a variety of tricks.

LARKS AND PIPETS.

We have here classed together two families, or rather genera of birds, which have many natural affinities. Among them are several species remarkable for the variety and compass of their notes, and which are therefore highly valued as cage birds. The best known and prime favourite of them is

THE SKYLARK,

Field lark, or laverock, as the Scotch call it, is a permanent resident on the British islands, over which it is so generally distributed, that there is hardly a locality, however bleak and barren, in which it may not be seen soaring spirally upward in the sunshine, and heard singing that blythsome song which it is so inspiriting and delightful to hear. This fine songster must rather be called a handsome than a beautiful bird; he has no gaudy colours to attract the eye, but his stout, well-proportioned form is clothed in a suit of brown and gray and dusky white; the crest of feathers on his head, which he can erect or depress at pleasure, give him a brisk and somewhat jaunty appearance, and his quick restless eye is full of fire and animation, if not dimmed by the loss of health and spirits, resulting from a too close confinement, and the want of proper food.

The nest of the skylark, the bird which soars and sings so far up in the heavens, is always built on the ground, and the strains which he pours forth so rapturously are meant for the ears of his little brown mate there, sitting among the long grass or the green corn stalks, as quiet and sedate as if she heard not the song, cared not for the stongster. But she does both hear and care, and her speckled breast throbs with pleasure as the shower of melody is rained down all around her, till every blade of grass, and leaf, and swelling ear, seem to flutter and dance to the joyous music. But hush! the song is ended, and the fond bird descends, not as he went up, slowly, and with a circular motion, but quick, and straight as an arrow, or a stone let fall from an unseen hand; and he drops, where? right upon the threshold of his loosely woven nest, in the hollow where there are some four or five gray and brown freckled eggs, on which he means to sit while his mate goes forth to stretch her wings and cramped legs, and take her meal of young ants, or ants' eggs, or caterpillars, or any small seeds or insects that may come in her way.

Young larks must be taken from the nest before they are fully fledged, or it will be a difficult matter to catch them; they may be fed on the paste made with bread and milk, with a little poppy or rape-seed mixed; but their natural diet, ants' eggs, if they can be procured, is best. The

yellow tinge of the plumage distinguishes the young males from the females. Their musical education ought to commence very early, as they begin to practise, or "record" their natural song before they are quite fledged; they easily acquire the notes of other birds, and may be taught to whistle almost anything; if they are to learn an artificial song, a chaffinch or a nightingale is the best master.

Old larks are most commonly captured by means of nets, which in the daytime are set up on poles, and the birds driven into them, and at night are drawn over the grass or stubble fields where they are sleeping. In this way great numbers of Dunstable larks, which have a high reputation, are annually caught and sent up to London, where they are sold to the dealers for four shillings per dozen. Care must be taken to put young larks into nets, and not wire cages, as they have a great propensity for leaping, and would be likely to injure themselves. The old birds should be put into store cages with wooden bars at first, and fed on oats, hemp or poppy seed, with meal-worms or maggots; afterwards they may have bread-crumbs, crushed oats, or barley meal; lean meat, cooked and minced; worms, flies, and other insects, with chickweed, lettuce, cress, and cabbage occasionally. They must always be supplied with clean sand in a saucer to dust themselves with, and a fresh turf of grass or clover twice a week, or so. They have very long claws, which should be carefully cut and attended to. They are subject to all the diseases which afflict cage birds, and yet frequently live many years in confinement. Bechstein says that the average duration of their life in this state is eight years, and that they have been known to live as long as thirty years. This author speaks of a malady by which these birds are frequently attacked, and which shows itself by the skin at the root of the beak becoming scabby and yellow; his remedy for this is abundance of good food, especially the second universal paste, varied with ants' eggs, worms, and a little green food. He also notices the difference there is in the musical powers of individuals of this species, the song of some being much sweeter and stronger than that of others; some, again, will continue to sing for a much longer period than others. A very curious circumstance connected with the history of this bird in confinement

is, that the hen will sometimes lay eggs without having any connection with the male. One, in the possession of a friend of Bechstein's, laid every year as many as from twenty to twenty-five eggs, but could never be induced to sit. Larks will breed in confinement, if kept in garden aviaries, where they can have plenty of fresh air and exercise; in a cage or room they are not so likely to breed, but will do so sometimes

THE WOODLARK.

This is a very melodious songster, not so loud and shrill as its more familiar congener last described; but generally most prized by amateurs in bird music, on account of its rich and flute-like tones. It is but two-thirds the size of the skylark, that is about six inches in length, and it closely resembles that bird in the colour of its plumage, and general markings. It has the crest erectible at pleasure, and the long hind toe, so characteristic of the true lark. It is a plump, compact little bird, haunting the thick hedges and leafy woodlands, often in the neighbourhood of cultivated lands, and often too in more wild and solitary districts. Thus on the brown northern moors, and at the skirts of the Grampians, these birds are frequently found, and being early breeders, generally laying their first eggs about the end of March, their young often perish in cold and inclement seasons. Woodlarks remain in this country the year through; but they are shy birds, and by no means very common even in the comparatively few localities which they frequent. They do not congregate in flocks like the skylarks; even in hard weather one seldom sees more than a family party of six or seven at the same time. At such times they have a particularly mournful cry, resembling the syllables *lu lu*, long drawn out, hence the scientific name of the bird, *Alauda lulu*. Their food then is small seeds, grain, and such green herbage as can be got at; in summer they feed chiefly upon insects, both in the pupa and larva state. The woodlark's nest is generally placed upon the ground, beneath a low bush or rank herbage, among the roots of a tree where the primroses and violets peep out from their mossy beds to see if the summer is yet come.

Occasionally it may be found under a fence or old park-paling, or among the feathery fern, or the trunk of a fallen tree; the materials are small root fibres, grass, and sometimes a little hair. The eggs are four or five in number, of a reddish or yellowish white, inclining to brown, with spots and speckles, and occasionally a few wavy lines of rusty brown, or dark reddish gray; the second laying generally takes place in July, after which the song of the bird is seldom heard in the fields or woods. The female woodlark is the handsomest bird of the two, the colours being darker and clearer, and the markings more distinct than in the male. Purchasers should look to this, as the dealer's word is too often not much to be depended on.

Young woodlarks, when taken from the nest, should be nursed on ants' eggs, and bread soaked in milk. It is best to get the parent birds also, and this may be easily accomplished by putting limed twigs on the nest, or going with a night net, after some mark has been put to indicate the exact spot, and so enclosing the whole family. In winter limed twigs, or a net, over places cleared from snow, and baited with insects, will often effect the capture of woodlarks. In spring, a good decoy-bird, to lure them to the trap, may be used with advantage; or a tame bird of the same species, with a forked twig, smeared with bird-lime, attached to it; in this way you will be pretty sure to capture a male. Newly-caught birds of this species should be put into a store-cage, and fed upon ground hemp and poppy seed, with ants' eggs, meal-worms, maggots, and raw meat; and this kind of food, with bread-crumbs, and occasionally bullock's-heart, boiled and grated, sweet curds, oats, and malt crushed, may be given to them. They will eat the universal paste, but should not be kept too closely to it. It has been found of advantage to give them now and then a little powdered chalk; and they should always have a good supply of clean, fine sand, in a vessel sufficiently large for them to roll in. About once a week, too, they should have a moist fresh turf, which cleanses and preserves their feet, that appear to be especially liable to disease. Bechstein remarks, that this bird seldom lives more than a year in confinement, a broken leg being generally the cause of death. In his opinion it is superior as

a songster to all birds whatsoever, except the chaffinch and nightingale.

THE TITLARK,

Titling, or meadow pipet, is a well-known species in this country, where it remains all the year, frequenting wet meadows, moors, commons, and pasture-lands chiefly, although it is to be found in nearly all situations. It has more of an olive tinge in its plumage than the lark proper, so to speak; and the spots on its white breast are remarkably distinct, and extend far down the lower part of the body, the whole length of which is about six inches and a half, including the tail, which is short. Bechstein, who calls this the smallest of the German larks, gives five inches and a half as the length; but this does not appear to be quite correct. His description of the bird otherwise so closely corresponds with the well-known British species, that we cannot hesitate to apply his remarks and directions thereto.

The titling, in whose nest it is said the cuckoo most frequently deposits her single egg, builds early in the season, and uses for her materials dried grasses and root fibres, with hair for lining; her eggs are four or five in number; they vary much both in size and colour, but are usually of a brownish white or gray, spotted and freckled with purplish gray or reddish brown. The nest is often placed on a grassy bank; sometimes beneath a bush or tuft of herbage. It is always on the ground, and generally well concealed. This is one of the birds that will feign being wounded, to entice the spoiler from its young brood, which should be taken before they are fully fledged, and fed on bread soaked in milk, mixed with poppy-seed and ants' eggs; they are very docile, and soon acquire the notes of other songsters which they hear, especially those of the canary.

Grown titlarks may be captured in spring by means of limed twigs over the nest, or attached to a decoy bird. In autumn great numbers resort to the oat stubble, and may be there taken in a night net. Up to September, the water-trap is tolerably successful. It is a difficult matter to get them, when freshly caught, to take the common food of the

aviary, and they require plenty of insect food mixed with it, such as meal-worms, grasshoppers, and small beetles, to which they are very partial. An ordinary lark's cage is best for this bird, which does not dust its plumage, but sprinkles it with water taken up in its beak. It is not a good songster, but an amusing bird, and remarkably neat and clean in its habits. In confinement it sings from February to July

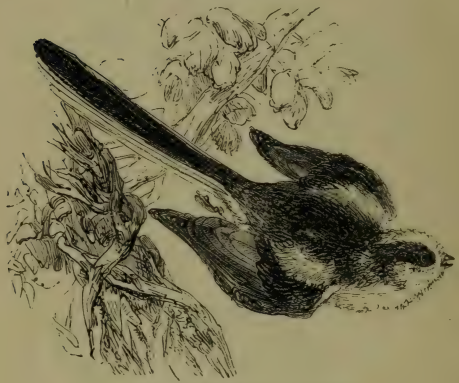
TITS.

These are all small birds, some of them not more than four inches in length, the largest scarcely so big as the house sparrow. They are mostly insectiverous; but do occasionally feed on seeds, flesh, and various other substances. Woods and thickets are their favourite haunts; but severe weather often drives them into the vicinity of human habitations: hence, it may be inferred, that they are not migratory. There are no more active, lively birds than the little tomtits, as they are commonly called; and in hunting for insects among the trees, they assume all sorts of strange attitudes. Their flight is bold and rapid, and their natural cries shrill and unmusical; some of them, however, turn out pretty good songsters in confinement, and on this account, as well as for their beauty of plumage, and lively engaging manners, they are valued as cage birds.

THE OX-EYE,

Or greater tit, may be considered as the chief of the family. It is abundant in the wooded districts of this country, where its shrill notes may be heard at the distance of half a mile. It has gay party-coloured plumes of black, blue, yellow, and white, well befitting such a harlequin of a bird. Its nest is made in any hollow or cavity that comes to hand; it must be tolerably deep, and is usually high up from the ground; if one cannot be found suitable for the purpose, the bird will make or enlarge a hole in the decayed trunk of a tree, and there deposit its eggs, about six in number, of a bluish white, spotted with reddish brown. Moss, leaves, shreds of bark, wool, hair, and feathers, form the materials of the nest.

BLUE TIT.—P. 66.



LONG-TAILED TIT.—P. 67.

BUNTING.—P. 67.

Sometimes the eggs are laid on the dust of the wood alone. If the birds are not disturbed, they will frequent the same nesting spot from year to year.

Tit-catching is considered, by those who follow it professionally, a very amusing sport. The most successful methods are,—First, a caged call-bird, placed upon the ground, with sticks having limed twigs attached, planted obliquely over it; if a shrill whistle, made of the hollow wing-bone of a goose, be blown near the spot, it will attract all the tits in the neighbourhood. Second, a trap baited with nuts, bacon, or oats, placed in a tree in a garden; the birds will be more readily attracted if the trap rest on a layer of oat straw: winter time is best for this means of capture. Third, nooses baited with elder and service berries; they must be of horsehair, or the bird will sever them with his sharp conical beak, and so escape. Fourth, the water-trap, where captures may be looked for from seven to nine o'clock in the morning, and from four to five o'clock in the afternoon.

The song of the ox-eye, in confinement, is described by Bechstein as varied, and exceedingly melodious, consisting of a frequent repetition of the syllables, *Si-tzi-da! Stiti, stiti!* intermixed with the double call, *Fink, fink! Tzitzeer!* He thinks that ox-eyes, if reared from the nest, would be found very docile, as the old ones evince great readiness to adopt the songs and call-notes of other birds. They may also be taught to perform curious tricks, such as drawing up food and water with a chain, &c.

The ox-eye is by no means a delicate bird, but will eat almost anything; it is particularly fond of nuts of any kind, also of meat, lard, and even tallow. It is fond, too, of bathing, and likes plenty to drink. With care, it will live in confinement from eight to ten years. It has been observed, that those kept in a close cage, and fed too much upon hempseed, are subject to giddiness; it is best to let them range the room or aviary at times; but only after they have been well fed, as if pressed by hunger, they will attack and kill other birds, laying open the skull, and sucking out the brains, to which they are exceedingly partial. Bird sellers say that ox-eyes with these carnivorous propensities, are distinguished by their forked tails; but this is a fallacy, al-

though there is no doubt individuals of the species differ greatly in disposition.

THE COLE TIT.

This bird, although generally distributed through Great Britain, is not common in any locality; it is neither so large nor so gaily-coloured a bird as the last species, than which it is more shy. It builds a nest of the same materials as those used by the ox-eye, but often in situations nearer the ground, sometimes in the hole of a mouse, rat, or mole. It is a pretty, lively bird, constantly hopping and fluttering about, but is difficult to keep in health; and having no connected song, only a number of harsh ringing notes repeated many times in succession, is scarcely worth keeping, except as one of an interesting family group.

THE BLUE TIT.

This is the funniest little mountebank of a bird that ever mortal eyes beheld; with his bullet head, and short thick body, apology for a tail, and no bill to speak of, he is here, and there, and everywhere, whisking about in his elegant suit of blue, green, white, and black, bold and fearless, caring for nobody, not even his mortal enemy, the gardener, who keeps his gun ready loaded for his especial benefit. A sad pilferer is the blue tit: dreadful havoc he makes among the buds; but it is the "worm i' the bud" that he seeks, which would destroy it if the bird did not—so the little fellow is not so mischievous after all. When we consider what a number of insects he destroys, we may well believe that he does more good than harm. The haunts and habits of this little bird are so much like those of the preceding species, that we must not occupy space by describing them. Its beauty and liveliness are its only recommendations, as it is no songster.

THE MARSH, THE CRESTED, AND THE BEARDED TITS

Are other members of this beautiful and lively family of birds of which no particular description need be given. Bechstein includes them in his work, but we have never seen them as cage birds in this country; neither of them are songsters, any more than is

THE LONG-TAILED TIT,

Or Mufflin, or, as it is more generally called, the Bottle Tit, from the peculiar shape of its large nest, which is generally attached to the branch or bole of a tree with which it assimilates in colour, so as to escape observation. This is an extremely beautiful bird, not uncommon here, and yet but little known. We have never seen it in a cage or aviary. Dr. Liverpool says that he has often endeavoured to preserve it in confinement, but without success. A pair of old birds which he caught in a trap cage were shy and obstreperous, and would eat nothing but insects, and of such food alone sufficient could not be procured for them, so that they soon died.

FOREIGN BUNTINGS.

There are several species of buntings brought from abroad, which, on account of their rarity and beautiful plumage, are highly valued. We will enumerate them in their alphabetical order, giving such particulars of them as it may seem desirable for the amateur to know.

THE DOMINICAN BUNTING.

This is a rare and costly bird, a native of Africa; it is about six inches and three-quarters in length, has a red beak, gray feet, a black head, with a patch of orange-white on the top, which runs down either cheek, and is diffused over the whole lower part of the body; the neck, back, and wing feathers, are black, edged with white; the tail is also black, and has the two middle feathers pointed at the tip, and about two inches longer than the rest. Some of the tail feathers, too, have white tips, with an orange tinge on the outer web. The female is very different, being of an uniform brown colour, with no inequality of length in the tail feathers. This bird has a pleasing song: it should be placed in a large bell-shaped cage, lest it should injure its beautiful plumes, and fed upon canary seed, millet, and barley grits, with green food occasionally; it moults twice a year, and often loses its chief ornament, the long tail feathers. After each moult, too, the colours, especially the white, become less pure.

THE INDIGO BUNTING

Is a native of Carolina; it is about the size of the siskin

that is, six inches in length; the whole of its plumage is a beautiful shining blue, being most intense at the top of the head: the beak is of a lead colour, the feet brown, which tint also appears in the larger pen feathers and the tail. The female is more sober-coloured, something like our common linnet, as is also the male while moulting, at which time, however, he may be distinguished from the hen by a grayish hue on his wings. These birds are often seen in spring in the orchards and gardens of New York. They should be kept in a bell-shaped cage, and fed on millet, canary, poppy, and bruised hemp-seed. Their song resembles that of the linnet.

THE PAINTED BUNTING

Is a native of all the warmer parts of Canada, and extends as far south as Mexico, Brazil, and Guiana, although it is not found in Carolina, at a distance of less than 130 miles from the coast. This bird is somewhat more than five inches in length, and the colour of the plumage varies greatly in accordance with age, acquiring its full splendour only after the third year's moult. The upper part of the back and scapulars are then yellowish green; the under part, with the rump, and all the lower portions of the body, red; the small wing coverts violet brown, with a red tinge, and the larger ones pale green; the pinion feathers are brown, some with red, some gray margins; the tail is also brown, the two centre feathers changing into red at the extremities, and the rest margined with the same colour. The feet and beak are brown, the former with a grayish tinge, and the head and neck a rich violet, which tint is assumed in the second year, when the rest of the plumage is bluish green, except the wings and tail, which are brown, bordered with the former colour. In addition to these changes, the birds moult twice a year, so that two individuals are seldom seen exactly alike: some are met with; which have all the lower parts of the body yellowish, except a red spot on the breast, which, in the moulting season, changes to white. These birds have a soft, pleasing song; they have been induced to breed in aviaries in which there were orange trees, to which they chiefly resort in their wild state. The proper food for them is millet, poppy, and canary seed, with endives; thus fed and carefully tended, they will live for eight or nine years.

THE SHAFT-TAILED BUNTING.

It is from the coast of Africa that we derive our supply of these rare and beautiful birds, which, exclusive of the four middle feathers of the tail, are only about five inches and a half long; these feathers are from nine to ten inches long, only about two inches of the extremity being webbed, the remaining length being but bare quills, giving the bird a very peculiar appearance. In winter, this bird is gray, somewhat like the linnet, only brighter, but in other seasons, all the side of the head, the neck, and the lower parts of the body are yellowish red; the upper part of the body is black, and spots of the same extend up the back of the neck; the under part of the thighs and vent are also black; the beak and feet are red, and the tail feathers brown and black. The female is a plain brown bird, and is without the longer feathers of the tail, which give to her mate so distinguished an appearance. These birds should be treated like the other foreign buntings; they are lively and agreeable pets, and good songsters.

THE WHIDAH BUNTING.

This, too, is an African bird, and, perhaps, the most beautiful of the family; its name, say some, is derived from Whidah, a fortress in Angola, about which it is commonly found. Others call it the Widow, because it has much of black in its plumage; this sombre tint, which extends over the head, chin, front of the neck, back, wings, and tail, is, however, greatly relieved by the light orange white and flesh-colour of the back of the neck, belly and thighs, and feet. The main peculiarity of the bird, which is about the size of a linnet, is its enormously long and singular tail, the four outer feathers of which are very broad, and about four inches in length; the two next are thirteen inches long, broad in the middle, and narrowing towards the ends till they come almost to a point; the two centre feathers of the tail diverge somewhat from the straight line, and are glossy, like those of a cock: thread-like filaments project from the ends of the longer tail feathers, and float about with every motion of the bird, which is exceedingly lively, and takes great delight in bathing and trimming its feathers; it has

a low, soft song, rather sad, but agreeable on the whole. It requires a large cage, and must be fed on canary seed, millet, and barley meal, with green food; it will live in confinement from six to twelve years.

FINCHES.

Most of the birds that are commonly called finches, belong to the great passerine or sparrow family. They are nearly all stout, yet active and lively birds, mostly gregarious, and living much upon grain and seeds; they are the neatest of builders, and the nests of some of them are perfect models of bird architecture. We shall speak first of the British species, and then of those which are not indigenous to the country.

THE GOLDFINCH,

Or, as some call it, the Red-fronted Thistlefinch, is too well known to need a description. It is an elegantly-formed and beautifully-coloured bird, with a very sweet, natural song, and great power of imitation, and is, therefore, an universal favourite. No aviary would be at all complete without Master Goldie, or Goldspink, as the Scotch call him; and where only two or three birds are kept he is pretty sure to be one of the species. He is the great rival of the canary in the affections of most bird-fanciers, and it is difficult to decide which of the two has the advantage as regards vocal powers; while for tractability, and the facility with which it may be taught sundry amusing tricks, the goldfinch, we imagine, has the superiority. In its wild state it usually resorts to gardens, shrubberies, and plantations, where it builds a nest, beautifully round and compact, of moss, lichens, grass, and other materials, lining it with the down of thistle-seed, or other fine filaments, usually vegetable. The eggs, about five in number, are of a grayish blue, sparingly spotted with purplish gray or brown. The nest is placed at a considerable height from the ground, often in an apple or pear tree. Goldfinches do not feed their young with insects, but, like the purely granivorous birds, with grain and seed moistened in the crop. When taken to be brought up by hand they should be fed on white bread-crumbs soaked in milk, and squeezed

dry. To the stiff paste thus formed let a little poppy or well-soaked rape-seed be added. They require great care and attention.

The full-grown birds may be fed on canary, rape, poppy, and other seeds; some hemp-seed may be given when the birds are breeding, and green food occasionally at all times. Lettuce or cabbage leaves, groundsel, and watercresses, are most relished by them. Bechstein says, that if allowed to range the room they will feed freely on the second universal paste; and that one which he had, although refusing to touch an insect, would eat freely of whatever came to table, both meat and vegetables. The goldfinch is a great eater, and will drive from the feeding-trough other birds which attempt to approach, unless they happen to be of the same species or especial favourites. Bird dealers divide goldfinches into several varieties, distinguished by the colour of the plumage. Bechstein mentions five of these varieties, as follows:—1st, the yellow-breasted; 2nd, the white-headed; 3rd, the black-headed; 4th, the white; 5th, the black goldfinch. The last, he says, are altogether black, which may be the result of age, or the immoderate use of hemp-seed; or it may retain a yellow spot upon its wing. In this country the only varieties generally distinguished are the "speckled birds," which have a white spot under the throat; the "bastard whitethroats," which have a streak of white half-way down; and the "whitethroats," or "cheverels," having the streak quite down to the breast. These last are scarce birds, and usually fetch a high price, which they really are not worth, as their song is no better than that of the other varieties. Before their first moulting, goldfinches do not get the bright crimson hue on the head; they are, therefore, called "graypates," and these are the best birds to purchase, if you have a good songster to place them under.

These birds should not be kept in a bell-shaped cage, nor in any cage in which the perches are very high, as they are apt to become giddy; the best-sized habitation for them is one about ten inches long by seven or eight wide, and the same high. If allowed the range of a room, a small tree should be provided for perching in, or a place separated by a grating. They are not, generally speaking,

healthy birds, although Bechstein says they have been known to live from sixteen to twenty-four years in confinement. Epilepsy is the disorder to which they are most liable; they are often afflicted with inflamed and swollen eyes, which may be cured by an application of fresh butter. If allowed to indulge too freely in hemp-seed, stupor and giddiness is sometimess the result; a diet of soaked lettuce and thistle-seed will generally remove this. An occasional supply of the latter food will always contribute to the health of this bird, which in old age becomes blind, and loses the bright red and yellow colours of its plumage. Goldfinches may be caught by means of a bundle of thistles in seed, smeared with birdlime, and fastened to a tree, or by means of springes placed among growing thistles; they may also be taken in a net; but they are cautious birds, and must be carefully approached.

Of their attractive qualities we have, perhaps, said sufficient, yet another word or two upon this subject we must find space for. They may be taught to go and come at command, ring a bell, feign death, and do anything which a feathered performer can accomplish. They are exceedingly lively birds, and sing at all seasons, except during the period of moulting.

THE SISKIN, OR ABERDEVINE,

Sometimes called the Black-headed Thistlefinch, is a bird not much seen in this country, except in autumn and winter, when large flocks of them may be observed feeding upon the seeds of the thistles and other composite plants, and also on those of the birch and alder trees. In point of beauty, the siskin will bear no comparison with the last species, although it possesses this recommendation in a high degree; the prevailing colour of its plumage is a yellowish green, elegantly marked and shaded with black; it is a neat little bird, with a short tail and stout conical beak; the top of the head is altogether black, hence one of its names. The proper home of this bird appears to be the North of Europe; but it also breeds among the pine woods of the Scottish Highlands, building a nest of grass stalks, root fibres, moss, and lichens, which it lines with hair, fur, wool, or feathers, as they chance to come to hand; the eggs

are of a pale greenish white, spotted at the thicker end with purple and brown; the nest is not generally placed very high up in the branches. Bechstein speaks of this as a "well-known cage bird:" in this country it is by no means so, although certainly a desirable species for the aviary; for although its native song is a mere twitter, yet it readily learns the notes of other birds; and, like the goldfinch, is very tame and teachable.

Our German authority tells us that, in his country, the siskins are the most easily caught of any birds. Those who live by brooks, bordered by alders, can almost put their hands out of the window and take them—so careless, or so eager, are the little feeders. A decoy bird, with a cage, or trap, or limed twigs, will, most seasons suffice to effect the capture of as many as may be required. Bechstein likens the continuous chirrup of this bird to the noise made by a stocking-loom, and says the weavers like it on this account; its continuous utterance appears to subserve a good purpose in the aviary; for we are told that it excites all the other birds to sing. The loss of liberty affects this bird but little: it will begin to eat directly after being caught, and become quite tame in a day or two; it will live from eight to twelve years in confinement, and will breed with the canary: if the latter be a green bird, very handsome hybrids will frequently be produced. The siskin, if loose in the room, will feed on the universal paste; poppy, hemp, and other seeds may also be given; it is a greedy bird, eating more than a chaffinch, although smaller, and fighting for possession of the seed-box like a little fury. It frequently dies of epilepsy, and sometimes of repletion. It requires a good supply of water for bathing.

THE CHAFFINCH.

This is another well-known and highly-prized songster, with the training of which more trouble is taken in Germany than, perhaps, with that of any other bird whatever; it is a common species in this country, where it permanently resides, keeping pretty much in the woods and thickets in spring and summer, and feeding upon insects and larvæ; but as the severe weather comes on, congregating in flocks, and coming nearer to the dwellings of man, searching for

food in the hedges, the gardens, and the farm-yards. It is a handsome bird, stoutly, but by no means clumsily made; and the colours of the plumage, although not brilliant, are yet so diversified and arranged as to produce a very pleasing effect. We need scarcely give a more minute description of the Shilfa, or Shellapple, as it is often called, for most persons have seen a chaffinch, and heard its sharp *twink, twink!* and more lengthened *tweet, tweet, tweet!* terminating sometimes with *churr-ee!* Its wild notes are soft and mellow, but have little variety; they are first heard very early in the year, for Chaffy seems at all times ambitious to open the vernal chorus, and to make a start before any other of the feathered musicians have got their instruments in order. A curious circumstance connected with the natural history of chaffinches is, that the males and females separate during the winter, and resort to different parts of the country; hence the scientific name *cælebs,* or the bachelor, applied to this bird.

A truly beautiful piece of workmanship is the nest of the chaffinch—neat and compact, and closely woven of a great variety of materials, according to the situation it occupies, as it generally closely assimilates in colour with the object against which it is placed, such as the trunk of a tree, or against a wall to which a fruit tree is nailed, &c.; the eggs are four or five in number, have a few spots and irregular lines of reddish brown, upon a ground of purplish white or grey. Plenty of young birds may be obtained at the proper season; they should be taken as soon as the tail feathers have begun to grow, for they are precocious fledglings, and very soon acquire the wild notes of their parents, of which it is difficult afterwards to break them. Birds, like boys, always remember best what they ought not. They should be fed upon the usual food for young birds, and will most likely do well on it until the moulting season, when great numbers usually die. A diet of ants' eggs will greatly assist them at this critical period of their prison life; those which pass through it will most likely be strong birds, and very tame.

Old chaffinches may be lured to the barn-floor trap, or to limed twigs in the spring and autumn, by a good decoy; in winter, nets placed over cleared spaces on which oats are

scattered, will have the desired effect. The chaffinch is a very jealous bird, and birdcatchers avail themselves of their knowledge of this to effect his capture: they place a tame cock on the ground, fasten him to a peg, and surround him with limed twigs, or, perhaps, attach one of these twigs to the tail of the decoy; in either case, the wild bird, which flies furiously down as soon as he hears the cry of his supposed rival, becomes entangled in the snare. Chaffinches which are caught about St. James's Day, are called in Germany "James' finches;" these young birds are more hardy in constitution than those taken from the nest, and provided they have a good memory, and will learn to sing, they are the most valuable birds.

Wonderful is the patience and ingenuity displayed by the Thuringian foresters in the training of chaffinches, and marvellous stories do we hear of strophes and anti-strophes, and trills, and double trills, and wine songs, huntsman's songs, and bridegroom's songs, and all sorts of apocryphal melodies, into which the music of these highly educated performers can be divided. Now, we do not mean to say that the twelve different strains, with varieties, which Bechstein describes, exist only in the imaginations of German bird-worshippers, but we do affirm that it must be an excessively nice musical ear that could detect those trills, and shakes, and warbles, which are said to mark the difference between the aforesaid strains, in those trained chaffinches which have come to us from the old "fatherland." Probably, it requires a metaphysical brain, and senses more delicately attuned than we possess; or it may be that the best birds are kept at home, and the story of the Thuringian's going eighty miles in the mere hope of snaring a good bird, and giving a cow in exchange for a trained singer, gives some look of probability to this latter supposition. Be this as it may, however, it must be confessed that a well-educated chaffinch is a beautiful songster, and a very desirable acquisition to the aviary. With the French it is a great favourite, and they have a proverb—"as gay as a chaffinch," which expresses their sense of its lively and engaging qualities.

Wild chaffinches feed upon seeds, grain, and insects, the first of which they generally shell before eating them; in

confinement, they may be fed the year through upon summer rape-seed, which should be well soaked in water before it is given: they are very fond of hemp-seed; a little about once a week, is good for them: they should also occasionally have groundsel, and other green food, and a few ants' eggs, or mealworms, which are a great treat. When moulting, bread and milk should be given. Those that have the run of the room or aviary, will take the universal food, with bread crumbs, meat, oats, and a variety of other things; they should be provided with a fir bough, in a warm corner, for perching, or a space separated by a grating. They sing best, and most continuously, in cages, which should not be lofty, but rather wide and long, as the birds do not fly up, but like to pass backwards and forwards, and be able to turn quickly. When there are several cages in a room, they should be hung so that the birds cannot see each other, or their attention will be diverted from their song. The whole secret of obtaining a good singer, says Bechstein, is to keep the cage in a dark place, and he recommends that the young birds taken early in the spring, shall be so kept until the month of May, by which time they will have learned their artificial strain.

It has been asserted that the chaffinch has no natural song of its own, and that it cannot imitate perfectly the song of any other bird, yet Bechstein speaks of *wild* chaffinches, which have a very distinct and perfect song; and few as are the notes of those indigenous in this country, yet they have sometimes continuity and modulation sufficient to form a very pleasing strain. And with regard to the powers of imitation possessed by the bird, they seem to be equal to those of most other finches. With the exception of the canary and the nightingale, there are few songsters which they cannot very closely follow, their patience and docility rendering them good, if not over-quick learners.

It has been noticed as a remarkable peculiarity in the chaffinch, that every spring it seems necessary for it to relearn its song; this process is called *recording*, and consists in the broken utterance of chirpings and mutterings, so to speak, of detached notes and short passages of the apparently forgotten melody; from one to four weeks is the time occupied in this recording, and those are esteemed the

best birds which get through it the most quickly. It appears that a want of flexibility in the muscles of the throat and larynx after some months of disuse, is the cause of this, and not any want of memory. Chaffinches have been known to live in confinement twenty years; they frequently become blind, especially if fed too much on hemp-seed, but this does not affect their song, indeed, they rather sing the better, so that the barbarous practice of blinding them with a red-hot needle is sometimes resorted to; this cannot be too strongly reprobated.

THE GREENFINCH,

Greenbird, or Green Linnet. This, like most of the other finches, is a handsome full-bodied bird; it is a common species in this country, where it is much more frequently seen in a wild than a domesticated state. Bechstein and some other naturalists call it the Green Grosbeak, on account of the large size of its thick conical bill. The plumage of the full-grown cock is very beautiful, being chiefly bright olive green, shaded and marked with darker green and yellow. In the spring and summer, greenfinches resort chiefly to the sheltered copses and plantations; their nest, built of small roots, moss, and straw, lined with feathers, hair, or fine vegetable down, is neatly woven, and placed in a low bush, or evergreen, the ivy against a wall, or a tree with forked branches: the eggs are from four to six in number, of a bluish white ground colour, with spots of purple, gray, or brown; they are early builders, and generally produce two broods in the year. The young birds should not be taken until they are nearly fledged. Bread soaked in milk, with a little raw meat scraped, or cut very fine, is the best food for them; they are excessively greedy, and must be carefully fed, or they will injure themselves. The plumage of both sexes is at first a greenish gray, but a slight yellow tinge generally distinguishes the male. If put under good tuition they will become agreeable songsters, although their natural notes are weak, and by no means melodious. They are very docile, have good memories, and sing nearly the whole year through. If pains are taken with them, they may be taught to go and come at command, and perform many amusing tricks. The old birds should be fed upon rape-seed and

green food, with a little hemp-seed now and then, especially at the moulting season; they are also fond of juniper berries, and if loose in the aviary will do very well on the universal paste. It is, however, rather a disagreeable bird to its fellow prisoners, on account of its greediness, which prompts it to mount guard near the food, and deny access to all weaker or more timid birds.

Greenfinches pair readily with canaries, and they are good sitters, but the males are, in general, neither remarkable for beauty nor musical powers.

Three distinct varieties of this species are spoken of by dealers, viz., the great, the middle sized, and the small greenfinch; in the first a rich yellow is the predominating colour, the second has it of a lighter tint, especially in the under part of the body, in the third it is more green than yellow: these variations, we think with Bechstein, may be all ascribed to age.

THE HAWFINCH,

Or Common, or Black-throated Grosbeak. In appearance this is by no means an attractive bird, having all the characteristics of the grosbeak family in a somewhat exaggerated degree; it has a short stout bill, stumpy tail, large head, and clumsy body; the colours of its plumage, also, are dull and heavy, and its natural notes harsh and disagreeable. Its only recommendation in a state of confinement appears to be its great tameness; this is all that even Bechstein can urge in its favour. If kept in a cage, it should be fed on rape and hemp-seed, with green food, and various kinds of berries, on which it chiefly feeds when wild, hence its scientific name, *Cocothraustes*, the berry-breaker; if in the aviary, the universal paste will do for it, with an occasional change as above.

The hawfinch is naturally a very shy bird, and has, therefore, been thought much more uncommon in this country than it really is. Once supposed to be wholly so, it is now ascertained to be only partly migratory; it frequents the beech and other coniferous trees, and generally perches upon the highest branches, and keeps a sharp look-out upon all comers. Its nest has been most frequently found in the vicinity of Epping Forest; it is composed of decayed leaves

and lichens, with a lining of fibrous roots and hair; the eggs are of a pale olive, spotted and streaked with black and dusky brown—they are five or six in number.

THE BULLFINCH.

This is another very inelegant bird, as regards shape, but then it has great beauty of plumage, great vocal powers, and many admirable qualities to recommend it; hence Bully is a prime favourite with bird-fanciers, and has to undergo a life-long imprisonment, and to learn a variety of accomplishments, which, if his own will were consulted, he would much rather be without. Bullfinches are permanent residents in this country, and although tolerably plentiful, are but rarely seen, on account of their shy retiring habits: to find their nests, one must search diligently in the thickest woods and forests; it is neatly made of small twigs and moss, with a lining of root fibres; the situation chosen is amid the thickest lower boughs of a fir or other tree, or in a hawthorn, or some close bush, four or five feet from the ground; the eggs are from four to six in number, of a bluish white, spotted and streaked with violet brown. The searcher will frequently be directed to the spot by the low sweet desultory warble of the male bird, which thus lightens the labours of its sitting mate; at the slightest noise, however, this will suddenly stop, and the singer will drop into the close covert of the bush, or tree, on which he was perched, and remain silent for awhile. Authorities differ as to the age at which young bullfinches should be taken. Bolton, in his "Harmonia Ruralis," says, they should be but four days old, for if left, as Bechstein recommends, till the age of ten or twelve days, they will acquire some of the harsh notes of the parent, which they will never again lose. Others say, do not take them till they are nearly fledged, and this is what we should feel disposed to recommend, rather than risk the removal of the birds at such an early age. White bread and milk, or buckwheat meal, with soaked hemp-seed, is the best food on which to rear them. The plumage of the young birds is of a dingy ash colour, with dull brown spreading over the wings and tail; the males may, at a very early period, be distinguished from the females, by a faint red tinge upon the breast; the latter may be taught to whistle, but they want

both the beauty and docility of the former; in the place of the brilliant red which renders the male bullfinch so conspicuous a bird, they have but a dull reddish gray; they are smaller of size, too, and altogether less attractive.

You must begin to whistle to young bullfinches the tunes you wish them to learn, as soon as they are taken, for although they do not begin to pipe until they are able to feed themselves, yet they will be storing up the notes in their memory. Recollect, too, that the lessons should be given immediately after they have been fed, for if at all hungry they will not pay any attention to the "voice of the charmer, charm he never so wisely." Bechstein says, that the course of instruction must be continued for three quarters of a year, or the lessons will not make a sufficiently deep and lasting impression; there will, by and by, be a confusion of different airs, a transposition of notes, or, it may be, that at the moulting season the whole will be forgotten, except some floating and shifting *disjecta membra* of a tune, which the bird were better without. Those patient, plodding people, the Germans, take immense pains in the instruction of bullfinches. Dr. Stanley has given an account of their seminaries, where, it appears, the birds are divided into classes of about six pupils; food and music are administered together, so that the associations are naturally pleasant ones; the birds are kept much in the dark, until they begin to repeat a few notes of the strain whistled to them, that their attention may not be diverted; by degrees, as they learn, so light is admitted to them, and each bird, as it becomes sufficiently advanced in its education, is taken out of its class, and placed singly, under the care of a boy, whose duty it is to grind away on his bird organ, from morning till night, the particular airs in which the bird is to become a proficient. In some of these bullfinch schools a starving system is adopted: the teachers go upon the principle of "no song, no supper," and give their pupils food and light as a reward for singing, and not as an incitement to sing: we know not which plan succeeds best, but would rather advocate the first. There are some very accomplished bullfinches that will whistle, or pipe, as it is called, three distinct airs, and these fetch high prices—several pounds have been given for such; generally, however, a single tune, with a short prelude, is as much as

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the little musician can manage, and this should be repeated to him frequently at the time of moulting, or he may chance to forget it, or drop a note here and there, and so mar its harmony.

But the bullfinch, we all know, can do other things than pipe; he can perform many pretty and amusing tricks—will come and go when told, balance his body backwards and forwards as though he were dancing, spread out his tail like a fan, eat out of the hand or mouth, and in various ways manifest an attachment to those who are kind to him, stronger, perhaps, than that shown by any other bird; the soft flute-like notes in which he pipes his acquired melodies, are quite expressive of his gentle and amiable disposition.

Bechstein mentions—as curious varieties of this species which may be sometimes seen in the aviary—the white, black, and speckled bullfinches; the first of these is white, with a gray tinge, or pure white, with a few spots of black on the head; the second is wholly black, and this is generally a hen bird, which has been kept when young in a dark place, or a bird, either male or female, which has been fed too exclusively on hempseed. Some individuals of this variety when they moult resume their original colours, others remain black, and the black, too, differs greatly in intensity; with some it is deep and glossy, with others dull, smoky, or rusty; occasionally the belly is more or less red, in one instance the wings and tail were white. The speckled variety may be either white or black, with spots of the opposite colour.

A hybrid variety is mentioned, being a cross between a hen bullfinch and a cock canary; in form and plumage it somewhat resembles both parents, and is a delightful songster, not so loud as the canary, but with notes more soft and mellow. This is a very rare bird, it being difficult to breed and rear such.

Then there are three so-called varieties which are distinguished as large, middling or common, and small bullfinches, the first being about the size of a thrush, the second of a chaffinch, and the third considerably smaller; these, however, Bechstein believes to be only accidental variations, having, as he says, seen birds differing as greatly in size as any of these, which were taken at one time from the same

nest. Bullfinches in confinement—if they range the aviary, which, being quiet inoffensive birds, they may be allowed to—will do very well on the universal paste, with now and then a little rape-seed. If kept in a cage, they should be fed chiefly upon rape and other seed, taking care to soak the hemp first, and not give too much of it; a little plain biscuit soaked is also good for them, and occasionally watercress, lettuce, a piece of apple, and service or other berries.

Bullfinches are easily captured by one or other of the methods prescribed for other finches, especially if a decoy bird be used; they will live eight years or more in confinement, and are rarely ill. Those which are reared from the nest appear to be much more delicate, seldom living beyond six years, and being subject to many ailments, such as costiveness, epilepsy, diarrhœa, for which they must be treated like other birds. They sometimes mope and sit apart with ruffled plumes, and should then be fed only on soaked rape-seed. For the moulting sickness they should have good food, ants' eggs, and a rusty nail in their water.

FOREIGN FINCHES.

Among the imported song birds are some very beautiful and admired species belonging to the finch family; of these, we shall presently give a description. But we must first speak at some length of a well-known relative of theirs, which occupies, as it were, an intermediate position between them and the native finches; for although originally a foreign bird, and still, to a great extent, an imported one, it is so widely diffused through, and so constantly bred in this country, that it can scarcely be considered an alien. We allude, of course, to

THE CANARY FINCH,

Called by Linnæus, *Fringilla Canaria*, because it first came, as is generally supposed, from the Canary Isles, where the species is still found in abundance, singing very sweetly, although not, perhaps, so scientifically as their richly-attired, and better instructed relations. Voyagers tell us that these wild birds of the Canary Isles have mostly gray plumage, and this tint prevails to a considerable extent in

some of the domesticated varieties, which, as we shall by and by show, are rather numerous. White, gray, yellow, green, and brown, of different shades, and in varying proportions, are the common colours of those birds bred in confinement; how the changes have been produced, it is now impossible to say; climate, food, and intermixture of breeds, have, no doubt, each and all had some effect in producing them, as by a careful attention to these matters, the latter especially, breeders in the country may now calculate with a tolerable degree of certainty on the kind of bird they are likely to have from certain parents, under certain circumstances. With regard to climate, it has been remarked by Adamson, that the canary, which becomes in France nearly white, is, at Teneriffe, almost as brown as our linnet, and this agrees with the general observation of naturalists, that the covering of animals, be it fur or feathers, becomes thicker, and lighter of colour, in proportion to the coldness of the climate which they inhabit. We should not, however, lay too much stress upon this argument, for in this, as in all other northern countries in which they reside, canaries are so sheltered and protected from the weather, that we can scarcely imagine it to have much effect upon the economy of their growth and structure; and then, too, the prevalence amongst us of the darker-tinted birds—greens, and cinnamon browns, and the like—militates considerably against this theory. After all, we must leave the subject pretty much as we find it, and confine ourselves to results, leaving causes to be inquired into by the learned and curious investigator.

The exact date of the introduction of the canary into this country is not known; it is mentioned by Gesner, who wrote in the latter part of the sixteenth century, and first described by Aldrovandus, in his "Ornithology," bearing date 1610; the bird was then esteemed a great rarity. According to some authors, the island of Elba was the first European ground on which the canary found a resting-place. A ship bound for Leghorn, they say, having on board a number of the sweet songsters, foundered near this island, on which the birds, set at liberty by the accident, found a refuge, and the climate was so congenial to their nature, that they remained and bred, and would, probably,

have been found there to this day, had not their beauty and melody attracted the attention of bird-catchers, who hunted them so assiduously, that not a single specimen was left in the island. From Italy the birds soon found their way into France and Germany, from the latter of which countries, and the Tyrol, we now derive our principal supply. Canary breeding and teaching is there conducted on a very large scale, and in accordance with well-established rules and principles; and persons from those countries annually visit England with trained songsters, which fetch from five shillings to a guinea or more each.

The breeding of these birds is also carried on to a considerable extent in this country; and very many fine birds, possessing all the requisites of song, shape, and plumage, to perfection, are every year produced by those, chiefly mechanics and small tradesmen, who devote their attention to the subject. The birds which carry off the prizes at the annual canary shows held in London in the month of November or December, when the birds of that year are what is called "moulted off clean," and are in full feather—are usually home-bred. Canary societies have existed in this country for upwards of a century, but it is only within the last fifty years that they have, like the floral and other societies, had annual shows and competitions for prizes. Their canons of criticism may be thus briefly summed up. They recognise two grand divisions in show canaries, that is, "gay birds," or "gay spangles," and "fancy," or "mealy birds," the first being plain, most like the original stock, and the last, variegated; this also includes the "jonques," or "jonquils," as the yellow birds are technically called: the varieties of these two grand divisions are almost innumerable, nearly every year producing a new one, which, like a prize flower, is in high favour, until displaced by some fresher beauty. Every season has its fashionable bird, as well as its fashionable bonnet; and a proud man is he who has bred, or who owns the favourite for the time being: this prize bird is usually selected as the model for the next year's show, and extraordinary pains are taken by the breeders to produce one which shall equal, if not excel, the feathered champion in its good points; this, at all events, is a more innocent kind of rivalry than horse-racing, or cock-

fighting, but, like all hobbies, desperately ridden; even bird-fancying, sometimes, runs off into extravagancies; thus, immense prices have been given for prize canaries, by men who could not afford to speculate in such uncertain ware, and larger expenses are often incurred in the breeding and rearing of these beautiful songsters than was warranted by the chance of a return, and the means of the breeder; still, if not carried too far, this cultivation, so to speak, of feathered songsters, is an innocent as it is a most agreeable pursuit, and may often be rendered profitable. But this is a digression from which we must return, to observe that amid all the changes of taste and fashion, there are certain *standard properties* which are always considered essential to the gaining of a prize, and even to admission to the competition for one. The first property considered in the show bird is the *cap*, which must be of a good colour, large and regular; the second is richness and purity of *colour* in the cap, and throughout the whole plumage; the third has regard to the *wings and tail*, which must be black quite home to the quill; the fourth relates to the *spangle*, which should be distinct, the preference being given to the golden ones; the fifth consists in *size* and *elegance* of shape. Besides these properties there are what are called *additional beauties*, not essential to the winning of a prize, but giving the bird a better chance of doing so. These are also five in number, as thus:—*Pinions* for size and regularity; *swallow* and *throat* for size; *fair breast* for regularity; *legs* and *flue* for blackness. In explanation of this it may be remarked, that from the beak to the back of the neck is called the cap, and this should be of a clear orange colour, full and rich in the ground, and with black edges to the feathers; the feathers on the loins, or the saddle, as it is sometimes called, as well as those of the breast, must be free from black, while the wings must have no admixture of any other colour. No bird can fairly compete for a prize that has not black on the stock or web of the back, flight, or tail feathers, or that has less than eighteen flying feathers in each wing, or less than twelve in the tail. A bird without pinions is considered preferable to a bird with one pinion only. To the bird which has all these requisites and beauties in the greatest perfec-

tion the prize is awarded. Canary societies generally consist of from twelve to eighteen members, each of whom on entrance puts up two or three pairs of fancy birds, and deposits a certain sum on each, and this forms the fund for the prizes, and for carrying on the operations of the society. It should be mentioned that no canary that is above a year old is eligible for a show bird, and that Norfolk and Yorkshire are the counties from whence, just before Christmas, the largest supplies of home-bred songsters are sent into the London market. These are generally ordered by the dealers just as any other commodity would be, and sometimes many thousands arrive in the course of one week. For some time past the Norwich birds have borne the palm for beauty of colour, trimness, liveliness, and freedom of song. Those from Yorkshire are not so handsome, either in form or plumage, neither are they so trim and sprightly; but they are stronger birds, and generally more steady and harmonious songsters. Holborn is the great canary quarter of London; in and about St. Andrew's Street every third or fourth house is occupied by a dealer, and those who desire to possess a first rate singer, should visit that classical spot as soon after the arrivals from the country as possible. It is best to go by gaslight, when the birds are all on the *qui vive*. A few shakes of a rattle, made of a wooden box with some peas inside, will set them off, and when once the concert is commenced each will strive to outdo the other, so that you will be able to judge of their powers. Do not, however, decide too hastily, and examine the bird on which you fix your choice before purchasing. It may, perhaps, have some defect in the plumage, which would deteriorate its market value, although in no degree diminishing its worth as a songster merely. Should the defect be merely a damaged tail, it can be easily remedied: you have only to draw the defective feathers, and their place will soon be supplied with new ones. Be sure to see that the legs and feet of your bird are clean and perfect; and do not leave it to be sent home, but take it away with you, if you have to buy cage and all. You ought to get a good bird for about five shillings, and if you do this you can afford to give a shilling or so for the cage to take it home in. Some dealers will allow you to leave a deposit, to be returned when the cage is restored.

In your choice of a bird do as William Kidd recommends; "Sacrifice colour to accomplishments; you will never repent it. Nature seldom gives us rare beauty and great accomplishments united."*

When you have purchased a bird, carry it home as carefully and gently as possible, having previously prepared for it a comfortable mahogany cage, well furnished with seed and water: into this you must let it step of its own accord, as it will be very tenacious of being touched or handled, until it has grown quite familiar to its new home and those about it. Place a light in front of its cage, and the chances are that it will begin to sing at once, especially if you provoke it to rivalry, by whistling or playing some lively air. Kidd remarks that, "The best trait in the character of the canary is, that he will sing place him where you may. These birds very seldom show a sulkiness of disposition; and even if they should do so, a single hemp-seed or a morsel of chickweed will set all to rights in a moment:" and all experience goes to show that this amiability of disposition is quite characteristic of this bird of the fortunate isles, whose nature appears to be as sunny and genial as the clime from which it originally came. We will now speak of

VARIETIES OF THE CANARY.

These are, as we before observed, almost innumerable, and many of them so closely approximate, that none but an amateur could distinguish them apart; the following, however, may be specified as well established and distinct varieties:—1, *Common canary finch*, of a gray colour, with the down black, much like the wild birds of the Canary Isles. These are considered the strongest and healthiest birds; they are about the size of a linnet, and in some of them the upper part of the body is of a brownish tint, as in that bird, the lower greenish yellow. 2, 3, *Gray canary finches*—1st, with the down and feet white; 2nd, with the tail white. 4, 5, 6, 7, 8, *Flaxen canary finches*—1st, common; 2nd, with red eyes; 3rd, having the plumage glossed with a golden hue; 4th, having the down fair,

* *Vide* articles on song birds in *Kidd's Own Journal*, from which we have derived much information of a really practical nature.

or unmixed with black; 5th, with white tail. 9, 10, 11, *Yellow canary finches*—1st, common; 2nd, having no admixture of black in the yellow down; 3rd, with a white tail. 12, 13, 14, 15, *Agate-coloured canary finches*—1st, common; 2nd, with red eyes; 3rd, with white tail; 4th, with the down of the same colour. 16, 17, 18, 19, *Yellow-dun canary finches*—1st, common; 2nd, with red eyes; 3rd, glossed with gold; 4th, down of the same colour. 20, 21, 22, 23, 24, 25, 26, *Variegated*, or *spangled canary finches*—1st, common; 2nd, with red eyes; 3rd, of a fair, or flaxen colour; 4th, the same, having red eyes; 5th, variegated with black; 6th, with black and yellow, red eyes; 7th, regularly spangled with black and yellow. 27, *White canary finch*, with red eyes. 28, *Pure yellow canary finch*, colour unmixed. 29, *Crested canary finch*, with crest of gray, yellow, or black, and plumage various; perhaps the most beautiful of these is a fine jonque cock, with a full black crest. In many of the above varieties, the gray and yellow birds especially, the tints frequently run off into green, and incline more or less to black and brown. The agate, or cinnamon brown, are generally uniform in colour; but the cream-coloured or flaxen are more so, and the yellow sort more constant both in the same and different individuals. In the variegated or spangled varieties, those of the jonquil colour are most usually marked with black, and have a dash of black about the head. There is a very beautiful variety called the *lizzard canary*, which is of a greenish bronze throughout, excepting the upper part of the head, which is covered with a patch of clear yellow; the markings, or spangles, on the back are perfectly uniform and regular. This is considered by some to approach nearest to the original stock. "The unsophisticated produce of nature being," as a writer on prize canaries, in the *Illustrated News*, remarks, "precise and geometrical."

None of the varieties here mentioned are what are called MULE BIRDS, although it is likely that some of them may have been produced by an intermixture of breeds, probably spontaneous, with the serin and citril finches, which are nearly allied to the canary, and are sometimes confounded with it. To the produce of a union of these species the term mule will not apply, as they are well known to be

prolific, which the cross-breeds of the hard-billed finches of France, England, and Germany, with the canary, are not. The best mule birds are those produced by the pairing of goldfinches, bullfinches, and linnets, with hen canaries. The first kind are commonly very beautiful birds, and, like the third, may be easily procured; the second are much rarer, as, tractable as the bullfinch is, he does not favour an intermixture of races. Some authorities maintain, that it is best to have a canary cock and hen of the other species for pairing, as the hybrids are likely to possess, in a more eminent degree, the musical powers of the father. Bechstein asserts that all these hybrids are capable of propagating their kind; but that the eggs of the first year are not much bigger than peas, and the young birds very small and weak; this defect, however, he says, is less observable in each succeeding brood.

CANARY BREEDING.

In the matching of fancy birds for breeding, and especially of canaries, it should ever be borne in mind, that the union of opposites are productive of the most harmonious results: thus, for example, a fine jonque cock, of a strong, rich colour, with a considerable quantity of black in his plumes, should be matched with a soft-coloured mealy hen, with as little black about her as may be, only noting that her tail and wings are true and regular; and for a strong mealy cock provide a healthy jonque hen, whose feathers are fine and soft, and markings perfectly even. Again, if you have a bird which has too much "strength of feather," as it is called; that is, too many black spangles on the back, and too much dark colour when the belly feathers are blown up, with the plumage altogether coarser than it should be, match it with one of the softest, silkiest, and clearest coloured birds of the opposite sex you can procure. It has ever been observed, that a spangle-marked cock, with a mealy hue, has produced birds with backs more regularly spangled, and altogether finer, than if both parents had been so marked. So it is with crown-top, or crested canaries; if you get one with a fine, full crown, match it with one that has none; singularly enough, a union of two crested birds generally produces a bare-polled progeny.

A fine, full-coloured yellow bird, without a speck or splash of black, is held in great estimation, and you are most likely to obtain this from the union of a clear-bred jonque cock with a large, perfect, mealy hen. You should ascertain where your birds come from, and take care that the breed is pure, or some original taint may make its appearance, and disappoint your expectations. A fine breed of pied birds, strong and good songsters, may be produced by the union of a rich-coloured jonque cock with a dark-gray or greenish hen. Good lizzards are obtained by matching a strongly-marked gray cock with a dark-splashed hen; and if you put together a strong gray or green-coloured cock, with a clear mealy hen, you will most likely have what are called cinnamon birds; the lightest tinted of this variety are termed quakers, and if you match a quaker hen with a clear greenish cock, you get what is called the dove canary, from the soft, subdued colour of its plumage. If you pair for several seasons the lightest mealies procurable, you will have white and flaxen-coloured birds, and so you may go on producing varieties innumerable. Always take care that your hens are of good shape, and regularly feathered, that one of the pair has beauty of plumage, the other good musical powers; and, above all, take care never to match birds of the same brood, this is sure to weaken and deteriorate the breed. If your birds are loose in an aviary you must let them pair as they please, and, unless you are desirous of obtaining choice fancy birds, this is the more agreeable and less troublesome mode of treating them; the birds like it better, because they are under little or no restraint, and you, as every bird lover must, will be glad to see them enjoying many of the pleasures of their native state of freedom, without any of its sufferings and privations. Our general remarks on THE AVIARY will give nearly all the information that will be required for the management of your birds under these circumstances—a few wicker nests hung here and there in snug corners, lined with hair or wool, or other soft substance, a genial atmosphere, and plenty of good nourishing food, with as little disturbance as may be, and they will manage for themselves better than you could for them. If your aviary is numerously and variously stocked, it is perhaps advisable to place the nests in cages

that can be closed at pleasure, that the sitting birds, and the young when hatched, may not be disturbed by too many visits from feathered friends or enemies, some of whom might feel disposed to use them rather roughly, if they did not utterly destroy and gobble up the poor little fledglings.

The following concise and simple directions may suffice for those who desire to breed canaries in a more careful and scientific way. This work can always be most successfully carried on in the country, where the air is purer, and the aspect of all things more fresh, and pleasant, and congenial to bird nature than in town; nevertheless, a large proportion of our best and finest song birds are born and reared in brick-and-mortar wildernesses, and for this purpose a room at the top of the house is generally chosen, because most airy and open to the sunshine; during the summer the window should be left open, with a net before it sufficiently strong enough to keep in the birds, and also to keep out the cats, which have a fancy for roaming on the house-tops, and a still stronger fancy for canary flesh. The room should have perches just about large enough for the feet of the birds to grasp, projecting here and there from the walls at different heights, and young fir trees (if growing in tubs or pots, so much the better), placed in the corners and elsewhere; the floor should be well sanded, and kept clean, and a good supply of rape and canary seed, and fresh water, in appropriate vessels, constantly provided. The birds may be allowed to fly about together, until the cold weather begins to set in, when you should begin to think of tenants for your breeding cages, which you have already fixed to the walls just high enough to be seen into without difficulty; then choose the birds which you are desirous of mating, and put into each cage two hens and a cock—bearing in mind the directions which we have already given about pairing. After living sociably together thus through the winter, they will be more likely, as the season of love approaches, to form a matrimonial alliance, than if they were then introduced to each other for the first time. You must watch their proceedings, and if there should seem a likelihood of their doing this too early, that is before April, the cock had better be separated from the hens for a time, or the young brood may come in inclement weather and so perish. When the

pairing time arrives, give your birds hemp-seed, groundsel, and hard-boiled yolk of egg; most likely the cock will begin to sing with extraordinary energy, and all the party will be in a constant state of flutter and excitement, showing that matters are going on exactly as you wish; should this, however, not be the case, and no signs of pairing manifest themselves by about the middle of April, put the cock into a small cage, and hang it where he can see the hens, but not get to them, and after keeping him so till he begins to sing loudly, and peck fiercely at the wires, restore him to the society of the ladies; should this fail, the case is hopeless—you must let him loose, or get rid of him, or try him with some other hens. Canaries, like unfeathered bipeds, have their particular fancies, and he, perchance, may have set his affections otherwhere. If matters are going on all right, place in the cage, where it may be easily seen and got at, some fine moss, cows' or rabbits' hair, or wool, washed very clean, and put osier nets of the size and shape of a bird's nest, in the inner division of the cage: these the birds will most likely proceed to line with the materials supplied for the purpose; should they not, you had better do it for them, pressing the hair or wool gently and evenly down all round the sides, the bottoms of the nests should rest on the floor of the cage, and be attached to the side to keep it steady. Notwithstanding all your care and attention, you will sometimes find a first egg laid away from either nest, in one of which you must gently place it, and most likely the second will be laid by its side; some persons adopt the plan of removing the eggs as they are laid, and putting ivory balls in their place, and then restoring them altogether to the nest, that the young may be hatched at the same time, but the policy of this is very questionable; there is great danger of breaking the eggs, and it gives unnecessary disturbance to the old birds, which, in the management of their domestic matters, should not be interfered with unnecessarily. We have said that the canary has his fancies; he will sometimes be very ardent and loving towards one of the hens, and neglect the other altogether; when this is the case, it is best to put the neglected hen in one division of the cage by herself, until the other begins to lay, then place the male with her, and keep him there until she does the same, after which the

sliding door may be left open, as there is no longer any occasion for keeping the birds separate. Seven or eight days after pairing, the first egg is generally laid, and each day after another, until the whole four or five are produced; in about thirteen days from this time the young ought to make their appearance; wait another day, and should there then be no signs of hatching, take the eggs carefully from the nest, keep them for four or five minutes in lukewarm water, and then replace them; it is well before doing this to hold them up to the light, as if they are semi-transparent, they are bad and may be destroyed; this experiment may be tried when the eggs have been sat on eight days only, and the mother bird, perhaps, may be saved some unnecessary trouble and loss of time. Sometimes a hen will lay three or four eggs, and then desert the nest; if those eggs are examined, they will generally be found bad: by what secret instinct is the bird informed of this? Some hens will cut their eggs, and some turn them out of the nest and break them; in the former case it is generally hunger which drives the bird to do it; to prevent this, food should be prepared over night, and placed where she can easily get it; in the latter case, you may be pretty sure that your hen is a hasty impatient bird, that will not endure the drudgery of attending to her offspring: if she hatches them, they will most likely be served as the eggs were, or left to perish of hunger; such a bad mother should not be used as a breeder. Before deciding on this, however, examine the feet of the bird, as this overturning of the nest will sometimes occur from the claws being dirty and clogged, or the nails too long.

As soon as the young are hatched, Bechstein recommends that a small jar should be placed beside the common feeding-trough, containing a quarter of a hard-boiled egg, minced very fine, with a piece of white bread, previously soaked in water and squeezed dry; and with this another jar, containing rape-seed which has been boiled and well washed, to deprive it of all acrimony; these should be prepared fresh every morning. It sometimes happens that young mothers are so over careful and anxious about the eggs not hatched, that they will not leave the nest to feed the young birds which are, and so they get starved: if you keep a register of the laying of the eggs, you will know exactly

when the hatching ought to commence: let plenty of food be placed close to the nest overnight, and observe if she gets off to take it in the morning, when you feel assured she ought to have her first chick out of the shell; should she not do this, nor the cock carry food to her, take her gently off the nest, and let her see that there is plenty of food, and one or more little yellow bills gaping for it; her maternal instinct will inform her what she ought to do in the case; and having once fed her young, she will continue to do so; the cock will most likely also follow her example.

While incubation is going on, take care that the room is kept quiet: even the violent shaking of a door may, it has been asserted, injure the young in the shell. When these are hatched, the male bird generally takes upon himself the responsibility of providing them with food, as if to give the hen a little rest after her heavy duties. Should you find, as is sometimes the case, that the young are insufficiently fed, administer a little food, prepared of biscuit, grated fine, and crushed rape, mixed and moistened when wanted for use, with a little water and yolk of egg; about four quills-full of this is sufficient for each nestling at the time; the frequency of its administration must depend upon the quantity of food given by the old birds; if you have to bring up the young altogether by hand, ten or twelve times a day will not be too often. The young canaries are almost destitute of plumage until they are about twelve or fourteen days old, at which time the hen bird usually begins to prepare for a second brood, and has often built her nest, and laid her eggs before the first are fully fledged. According to some authorities, Bechstein among them, the growth of the feathers is promoted by the immersion of the young birds in a bath of lukewarm water; this renders them, however, extremely liable to get a chill, and it is best, if you observe any backwardness in the development of the plumage, to take a syringe, filled with warm water, and standing at some distance, let it fall in a gentle spray over mother and young. It has been found that when a male canary has paired with two females, and one of them has died after laying, the other hen has received them into her nest, and sat and tended on them as if they had been her own, even

repulsing the attentions of the cock, that she might be enabled to do so.

After the thirteenth day, the young birds can generally feed themselves, and when a month old may be taken from their parents altogether; they may then be placed in a good-sized store cage, or in small separate cages, as Bechstein recommends, and fed with their ordinary food, with which a little soaked rape-seed has been mixed; they should not be turned loose in the room until after the first moult, during which they will require all the care and attention you can bestow on them.

And here we may bring our directions as to breeding to a close, with observing that the canary is a tolerably prolific bird, having commonly four broods in a season: a single pair has been known to produce as many as forty young in one year, but this was a very extraordinary instance; there are, however, many casualties to prevent the bringing up of a large number, and the breeder may think himself well off if he rears the half of those produced. Constant breeding weakens the hens greatly, so that they seldom live above seven or eight years. For breeding, the cock should not be less than two years of age; the hen somewhat older.

FOOD.

The best general food for canaries is rape and canary seed, with occasionally chickweed, lettuce, watercress; boiled vegetables, such as carrot, cauliflower; and raw fruit, such as apple, pear, &c.; a lump of sugar, now and then, will do them no harm, but they should not have too much of this, nor of anything sweet: only sufficient food for one day should be given at the time, or they will pick out the best the first day, and afterwards feed on the husks, thereby impairing their digestive organs. Sand, some old mortar, and plenty of fresh water to drink and to wash in, are among their requirements: during the moulting season they should have bread and milk, and if during incubation the hen sweats very much, it is best to mix her canary-seed with oatmeal, and let her have water impregnated with iron to drink. Bruised rape-seed, from which the chaff has been blown away, rubbed down in a mortar with crumb of white bread, makes a good dry food for old birds, and the

same mixed up into a paste with hard-boiled yolk of egg and water, is excellent for the young ones: care should be taken never to give this when sour, or at all musty. Stale sponge cake, rubbed down to powder, or made into a paste, with a few drops of sherry wine, is good when your birds, from sickness, or other causes, are weak and debilitated.

DISEASES.

Although the diseases to which the canary is liable are much the same as those which attack other species in confinement, yet it is so important and universally admired a song-bird, that we think it well to give specific directions for its treatment under all the ills that canary flesh is heir to. We will take the diseases in the order in which they are set down by Bechstein, and add to the information given by him, some which our own experience and reading have enabled us to acquire:—1st, *Rupture*, or *surfeit*, a kind of indigestion, causing inflammation of the intestines, to which young birds are more especially subject; the symptoms are, a swelling of the body, which, on blowing up the feathers, looks semi-transparent, and full of red veins; at the lower part are black turgid lumps, as though the intestines had fallen there in a knotted state; the cause of this is, generally, an over-abundance of nutrition, or bad or stale food or water; the remedy, if any there be, a spare diet, with a little alum or salt in the drink; groats and oatmeal are good in this case: if the bowels should be much relaxed, give bruised hemp and maw seed, with a little stale sponge cake soaked in sherry wine. Sometimes the feathers of the bird come off, then rub the bare parts with fresh lard, or oil of almonds. 2nd. *Egg Rupture*, consists of an obstruction of the passage by which the eggs are ejected: suffering from this disease, which in the end frequently proves fatal, the bird is said to be egg-bound; she often fancies that she has laid, and broods upon an empty nest: a few drops of salad oil applied to the vent, and a warm bath, are the best remedies; you must be very careful in handling the bird, or you may break the confined egg, a catastrophe which would most likely cause immediate death. When you have applied the remedies, do not let her loose, but place her gently upon the nest, and it is likely she will then be able to

void her eggs; if not, try a few drops of castor oil administered in a quill: should this fail, there is little chance for her. 3rd. *Yellow Gall or Scab* makes its appearance about the head and eyes; sometimes there is a small ulcer the size of a hemp-seed. This must be carefully cut off with a sharp pen-knife, and the place anointed with fresh butter, or washed with urine; the bird should have fresh nourishing food. 4th. *Sweating* most usually affects sitting hens, and will, if not cured, destroy the brood. Wash the body of the patient in a good strong solution of salt, and after a few minutes with fresh water; dry her as rapidly as possible in the sun. Do this once or twice a day, and sprinkle a little sherry wine over her plumage. Supply her with plenty of good food to tempt her off the nest; she is most likely a weakly bird, and injures herself by sitting too close. A sweating hen is not fit for a breeder, so never use her for this purpose twice. 5th. *Asthma* arises frequently from a disordered stomach, and may be relieved by the use of soaked plantain and rape-seed. 6th. *Sneezing*, often caused by an obstruction of the nostrils, and may be cured by passing a very fine feather through them; sometimes the result of a cold. Careful exclusion from draughts, good food, &c., are the remedies in this case. 7th. *Huskiness, or Loss of Voice.*—Young cocks, when moulting, are frequently so affected, but birds of all ages and at all times may be; a cold is the general cause. Never purchase a husky bird: you may be told it is only a little cold, and will pass off. So it may, but it will most likely return before long, and become a chronic disease, ending in decline. The remedial measures are:—Keep the bird warm, and give it some linseed with its rape and canary, and ripe plantain if it can be got. Every morning it should have a small teaspoonful of warm bread and milk, and now and then a little bit of sponge cake soaked in sherry wine. 8th. *Constipation.*—The simple and effectual cure for this is, plenty of green food, such as lettuce, watercress, &c. A piece of sugar candy in the water is also good. 9th. *Epilepsy.*—Birds which have been too delicately nurtured, and which are weak from other causes, are most subject to fits of dizziness, which causes them to fall from their perches, and lie for awhile as dead Sometimes these attacks are brought on by over exertion or

fear. A cold bath is one of the easiest and most effectual remedies: a drop or two of sherry wine, if the bird can be made to swallow, will generally restore it to consciousness, and help to prevent a recurrence of the fit. Nourishing food, and a few drops of spirits of nitre in the water which the bird drinks, are good in these cases. Some persons draw a feather or two from the tail at the time of the fit, but we do not recommend this. 10th. *Overgrown Claws and Beak.*—These, although scarcely to be called diseases, sometimes have as bad an effect upon the health of the bird as if they were really such; for the consciousness of possessing claws and beak of an undue length, and the fear of getting them entangled in the wires of the cage, or other objects about, will cause it to mope and refuse its food: therefore, they should be properly trimmed with a pair of sharp scissors. Care should be taken not to cut them so closely as to produce blood. This may always be avoided by holding the claw to be operated on up to the light, and seeing how far down the toes the vessels extend. Your grasp of the bird should be firm, yet very gentle, and all that you do should be done without haste or trepidation. 11th. *Vermin.*—The most troublesome of these are called red mites, minute insects resembling house bugs, which get into the crevices of the cage, the plumage of the birds, the nests, and all places which afford a harbour for them, and annoy the birds dreadfully. These little bloodsuckers carry on their warfare chiefly by night. When a cage is once infested with them it had better be burnt, for hardly any amount of cleansing will entirely dislodge the enemy. A pinch or two of pungent Scotch snuff under the wings and about the bodies of your birds will partially destroy them, but you must be careful that it does not get into the eyes of your songsters. The most effectual remedy is, perhaps, a solution of white precipitate powder, washed over those parts of the canary where the mites are most likely to be, putting the cage in the sun, or before the fire, that the feathers may get thoroughly dry after the application. Recollect that this is a strong poison, and guard against accidents when using it. For lice, frequent bathing and great attention to cleanliness may be recommended: a little crushed aniseed with the sand at the bottom of the cage will often dislodge the intruders.

Cages of fir or other soft wood are most liable to be infested with vermin: there is nothing like a mahogany or a metal cage for the comfort of your birds.

The following diseases are not mentioned by Bechstein with those to which the canary is especially liable, but as the bird does suffer from them, and requires some peculiarity of treatment, we mention them here:—

Obstruction of the Rump Gland.—This is sometimes called the *Pip*, and is manifested by a swelling or small pimple which makes its appearance in the rump of the bird. If it does not go away of itself, which it frequently will, it may be opened with the point of a fine needle, the matter squeezed out, and a little salt or brown sugar, previously moistened with the tongue, placed over the sore, which will quickly heal. This swelling is frequently an indication that your bird is out of health. If he sits all of a heap, and frequently twitches his tail, see if his motions be hard; and if so, give him some oatmeal and a little watercress for a few mornings; also change his seed, and put a few drops of spirits of nitre into his water.

Diarrhœa.—This is frequently a fatal disease with canaries, as with other cage birds. The bird attacked with it constantly voids a white fluid matter, which causes great inflammation of the rectum. The best remedial measures are as much natural food as possible, the drinking water impregnated with iron, a piece of chalk stuck between the wires of the cage for the bird to nibble, or some scraped chalk scattered on the bottom: some authorities recommend that the belly of the patient should be rubbed over with olive oil or oil of sweet almonds, and that melon seed bruised shall be given to it, with the yolk of hard-boiled egg, stale sponge cakes, and slightly scalded lettuce. We cannot say that we have much faith in any of these so-called remedies; chalk and iron, and natural food, are the grand things.

Moulting Sickness.—This is most dangerous to young birds, and generally commences when they are about six weeks old, and continues for a couple of months or so. You will observe that the birds lose their natural vivacity, and sit moping about with their heads under their wings, and soon the bottom of the cage will be strewed with the shed feathers. All you have then to do is to keep them quiet,

and free from draughts. As the weather will most likely be warm, the moult commonly occurring in July or August, you need not muffle them up: hang them in the sunshine as much as possible, give them hemp-seed and stale sponge cake, and any nourishing food they seem to fancy; they will not eat much. Let them constantly have a lump of sugar to peck, and throw into their water a little saffron or a piece of refined liquorice now and then. William Kidd recommends a very small quantity of raw beef scraped and moistened with cold water about once a week, and ripe chickweed, with yolk of eggs; and an American breeder * says that, "Should the moult prove uncommonly bad, the bird should have sponge cake soaked in sherry wine, and a little of the same wine blown over his feathers every day or two while he is drooping. At this time be very careful to keep your birds supplied with sand or gravel."

Want of appetite sometimes occurs after breeding, moulting, or other sickness: in this case, the bird should be tempted to eat by any little dainties that can be thought of; a composition, made of millet, canary, rape, and hemp seed, mixed with moist garden loam, and then dried in the form of cakes, has been found of service in this disorder.

Cancer is sometime prevalent among canaries: it appears to be contagious, and generally attacks the feet or the bill, which become much swollen; take care to keep the cage perfectly clean, and bathe the part affected frequently with olive or almond oil; wash it also with lukewarm milk.

Broken limbs are best left to themselves: human contrivances, where so fragile a thing as a bird's leg or wing is concerned, are generally more mischievous than useful; nature will perform the cure if it is to be done: place the little sufferer carefully and tenderly in a small cage without perches upon some soft hay, let the seed box and water vessel be within reach, and muffle up the cage with flannel or baize, and keep everything as quiet as possible, so that the bird may not be excited to move; the chances are that, in a few days, all will be right again.

Decline.—A hen canary will sometimes mope and pine away without any perceptible cause; this is usually on ac-

* H. B. Hirst, *Book of Cage Birds*, Philadelphia.

count of being excluded from the male bird; let her breed, and she will probably recover, if not too far gone.

We have now, we believe, gone through the whole list of ailments to which the canary is subject, and a pretty formidable one it is. Let not our readers imagine, however, that this is a delicate species, it is by no means so; ordinary care and attention only are required to keep it in health and full power of song for many years. No extensive breeder should be without an hospital cage, as most of the diseases to which the bird is liable may be considered as contagious; and the loss of an entire collection may sometimes result from leaving the sick with the healthy birds. Such a cage should be of wood, well lined with thick flannel, and having different compartments in which to place, if necessary, the little patients; the front should be of wicker-work. As a proof that canaries are not such delicate birds as has been generally supposed, it may be mentioned that, even in this northern climate, they have been induced to breed and live in the open air. William Kidd, in his journal, gives an interesting account of the shrubberies of William Wollaston, Esq., of Welling, in Kent, where canaries, goldfinches, and other sweet songsters, build and sing, and are provided with food without the trouble of seeking it. At the Queen's Marine Villa, Osborne House, in the Isle of Wight, and other places in this country also, the experiment of open air canary breeding has been successfully tried, and it is likely that, eventually, we may see, in the more southerly and sheltered parts of our island, this beautiful songster a wild bird of the copse and woodland. Many years ago, Gilbert White asked,—"Might not canary birds be naturalized in this climate, provided their eggs were put in the spring into the nests of some of their congeners, as goldfinches, greenfinches, &c.?" We apprehend that bird-catchers would prove greater obstacles to the naturalization of canaries amongst us than the climate; it is to be feared that the birds would be hunted as assiduously as they were in the Island of Elba, and with the like result.

It has been well observed, that "most foreign birds, introduced into this country, degenerate and lose their spirits; but the canary finch rises in colour, feathers, and song; and, if properly managed, no bird will recompense you so well,

for he will delight you with his singing nearly all the year round, if bred and reared for that purpose." And now it will be necessary to say a few words about the method of

TEACHING TO SING.

We shall occupy but little space with remarks upon this head, as much that might be said will be found in its appropriate place in the first section of our book. Soon after the young canaries are able to feed themselves, they begin to twitter; and even at this early period, Bechstein says, the male may be distinguished from the female by the more connected character of his song. Then is the time to begin the course of musical instruction; the birds to be taught should be put into separate cages of small size, which should at first be covered with a linen cloth, and afterwards with some thicker substance, so as nearly to exclude the light: place them in a room by themselves, as remote as possible from all discordant and distracting sounds, let a short air be whistled or played to them on a flute, flageolet, or bird-organ, five or six times a day, and repeated on each occasion about that number of times. Especially in the morning and evening, and at feeding time, should these lessons be given: from two to six months is the time required by the birds to learn the tune perfectly; some having better memories, and some being more docile and attentive than others. Should you wish your birds to acquire the strain of any other feathered performer, you must hang him in the room with them, and let them hear as little else as may be. A well-instructed canary, nightingale, goldfinch, sky or wood lark, may be the music-master; the English taste is in favour of the two latter. Tyrol birds are, most frequently, taught to introduce the warbling of the second; and in Thuringia, as Bechstein tells us, "the preference is generally given to those birds which, instead of a succession of noisy bursts, know how, with a silvery sonorous voice, to descend regularly through all the notes of the octave, introducing from time to time, a sound like a trumpet." Some canaries, in the pairing season, have been known to sing with such loudness and vigour as to rupture the blood-vessels of the lungs, and fall dead in the midst of their song; at the same season, the hen bird, which is generally

silent, will utter a few harsh unconnected notes; and when the bird is too old to breed, she will sometimes continue this melancholy ghost of a song throughout the year. This incompetency for singing is the chief distinction of the female from the male canary; yet those much accustomed to see and handle the birds, can at once determine the sex. We must now conclude our remarks upon this most interesting species, on which, of itself, a volume might be written. The nightingale and the canary, among song birds, are what the rose and the lily are among flowers, both inexhaustible subjects.

THE GLOSSY FINCH.

This is a South American bird, being found chiefly in the woods of Cayenne and Carthagena; it is somewhat smaller than the common sparrow; the general colour of the plumage is a rich glossy black, with a blue cast; the feet and bill are flesh coloured. The feathers of the hen exhibit a considerable admixture of yellowish brown and gray. This bird is a soft, pleasing songster, and exerts itself so much in singing that the feathers of its neck stand out like a ruff: it is easily tamed, and may be fed upon all kinds of fruit and seeds, especially poppy, rape, and millet.

THE PURPLE FINCH

Generally comes to us from Carolina, where the species is abundant. It is about the size of the chaffinch, not a good songster, but a very beautiful bird, with plumes of a dark violet colour intermixed with brown; the abdomen is white, and the tail somewhat forked. The female is entirely brown, with a speckled breast, resembling that of the thrush. In their wild state, these birds feed much upon juniper berries, of which they should have an occasional treat when in confinement. Their chief food may be rape and canary seed; they are not at all delicate feeders, but will soon take to almost any kind of prison diet.

THE AMERICAN GOLDFINCH.

This bird is tolerably abundant during the summer about New York; it is about the size of our linnet, and has a prettily variegated dress of black, white, and yellow. In the female, the markings are less lively and distinct, and the

back is olive green, so that she closely resembles the siskin, especially when in her winter plumage; which, in the male, also becomes somewhat of an olive tint. The treatment of these birds in confinement may be, in every respect, like that of the native goldfinches. Feed them with thistle seed and other dainties, and they will become very familiar. We are not aware that they have ever been induced to breed here, but think it likely that they might with a little care and attention; attempts have been made, as Wilson relates, to make them pair with the canary, which in appearance they much resemble, but, hitherto, with little success. Their song is much like that of our goldfinch, only weaker: in the cage they often sing with great energy and animation.

THE BRAZILIAN FINCH

Is about the size of the siskin; the prevailing colours of the plumage are black and brown; the beak is of a coral red, and the eyelids scarlet; the sides of the head, around the eyes, purple; the legs and feet are light gray. In the female, the under parts of the body, which in the male are black, are yellow and white; in other respects she resembles the cock. This is a very pretty lively bird, with an agreeable song; it may be treated like the last.

THE BLUE-BELLIED FINCH.

This is an African bird, somewhat smaller than the Brazilian finch, being about four inches and a quarter long; it has, like that bird, a longish conical tail, which is of a blue colour, as are also the sides of the head, the under part of the neck, the breast, the abdomen, the rump, and vent; it has a flesh-coloured beak, compressed at the sides, and very pointed; the feet are pale brown; the vertex and upper part of the body ashy brown, with a tinge of purple; a curved patch of this colour may likewise be observed beneath each eye. The female is without these distinctive marks. These birds came to Europe chiefly from Angola and Guinea; the male has an agreeable, though weak song. They should be fed on crushed hemp, canary, and poppy seed, and kept warm.

THE GREEN GOLDFINCH

Is a native of the Brazils; it is much like the European species in size and figure; the flesh-coloured beak is compressed at the sides, and terminates with a very long point, somewhat hooked; the throat and forehead, as far back as the eyes, are bright red, as are the margins of the greenish posterior pinion feathers; the larger pinion feathers are dark brown, delicately edged with dark yellow; the vertex, upper part of the neck, back, and wing coverts, are yellowish green, and the reins ash coloured; the breast is olive green, fading off into white towards the abdomen; all the under part of the body is spotted with dark brown; the rump and tail are red, with an ashy gray lining to the latter. The principal distinction of the female is a bright yellow back, running off into green towards the rump, and becoming ashy on the neck and vertex.

This is a delightful songster, and one of the most beautiful of cage birds; with proper attention, and a diet of canary and rape seed, it will live for many years.

THE ANGOLA FINCH,

A gentle and docile bird, in size, form, and manners, closely resembling the English linnet, singing as sweetly, but more powerfully than that well-known species. It has a gay plumage of red and yellow, shaded with dark brown and rusty gray, spotted at the sides of the throat with white; the legs and beak are a dull flesh colour.

THE LIVER-COLOURED FINCH

Comes from the Western Coast of Africa; it is about the size of the above species, and has much the same colours in its plumage, only they are differently arranged. Its short, conical, sparrow-like beak is blood red, with a black tip, and this is a very obvious mark of distinction. It is a very lively bird, with a song as soft as that of the willow wren. This and the Angola finch should be fed upon rape and canary seed. We have here enumerated the principal foreign finches brought into the English bird-markets; they are all of them beautiful, and most of them rare birds, not at all difficult to

keep when obtained; they show to most advantage in bell-shaped cages.

LINNETS.

Very nearly allied to the sparrows and finches are the linnets, of which there are four British species,—three of them songsters and common cage birds. The best known and most admired is

THE BROWN, GRAY, YELLOW, OR ROSE LINNET,

As it is variously called, in accordance with the changes caused by age, or atmosphere, or other influence, on its plumage. Dealers speak of these as so many varieties, which in reality they are not; for the same bird, which at one year old, when it has no red feathers in the head, is a *gray linnet*, becomes after the second moulting, when the red of the breast takes a golden hue from the yellowish white margins of the feathers, a *yellow linnet;* and in the spring of its third year, when the forehead is blood red, the feathers on the side of the breast the same colour, and a ferruginous tinge prevails over the whole body, the bird comes out in all its glory as a *greater redpole*, or a *rose linnet*. By-and-by, when age steals on, or sickness or confinement tell upon the constitution of the sweet songster, he falls from his high estate; his plumage changes, and he is a brown, gray, or yellow linnet, as the case may be. There is scarcely any bird, perhaps, that puts on so many different dresses in the course of his life as our little masquerading lintie, or lint-white, as the Scotch call him; there is scarcely any telling what changes each moult will produce—that is, in a state of confinement; for, in a natural state, the bird will go through its regular gradations of plumage in a natural manner, and one may safely judge of his age by his dress; but in an artificial state, it is not so; and a *gray canary* is as likely to be an old and sickly bird, as a young and vigorous one; indeed, more likely, for the beautiful rosy flush, which suffuses the wild songster in its full maturity, passes away after a year or two of prison life, as the hue of health from the cheek of one country bred, who comes to dwell in the close and clouded atmosphere of a populous city. Through all its changes, however, the little linnet is one of the very sweetest

of feathered songsters, and whether in health or sickness, it seldom fails to pour forth its melodious notes; nay, Bechstein tells us that he always endeavoured to procure those birds in which the red on the breast was replaced by a bright orange, a change attributable to age or sickness, "because their song was clear and beautiful."

Naturally the linnet is rather a wild shy bird, and during the summer is found dispersed over the hilly and mountainous parts of the country, more specially where thickets abound; in the winter it approaches the habitations of man, collecting in flocks like the larks. If you wish to find the nest of the linnet, you must look for it close to the ground. It is usually placed in a low bush, constructed of grass, moss, and wool, and lined with hair; the eggs, from four to six in number, are bluish white, sparely spotted with purplish gray and brown. The young are somewhat difficult to rear, unless you can take the parents with them, who will, as when wild, continue to feed them from the crop. Should you not be able to do this, crumbs of bread soaked in water, squeezed dry, and mixed with crushed rape-seed, is the best food for them. They should be taken from the nest as soon as the tail-feathers begin to grow, if you wish them to acquire an artificial song, for if left longer they will get themselves stored with the notes of the old birds. Linnets are difficult birds to catch. In the spring, before they have paired, a good decoy with limed twigs will sometimes do the business. They are very fond of lettuces, and may occasionally be taken by nooses or bird-lime, placed among these vegetables. Bechstein says that shepherds sometimes arrange the salt-troughs for the sheep, so as to entrap the linnets that come to pick up the grains scattered to entice them.

The best food for these birds in confinement, according to this authority, is summer rape-seed, which it is not necessary to soak, as the linnet is almost entirely a seed-eating bird, and has strong digestive powers. We would recommend a little mixture of canary-seed with this, and occasionally green food; hemp-seed must not be given, nor winter rape, for although the bird eats of this when wild with impunity, yet, when deprived of the opportunity of strong exercise, this seed acts almost like a poison. Linnets

are naturally of a plethoric habit, and must not be fed very abundantly; a little salt should be given to them now and then; water and sand are essentials.

The natural song of the linnet is very sweet; but if placed when young under the tuition of a nightingale, or a woodlark, or taught by an instrument, there is no more delightful songster. It is one of those birds that will breed readily with the canary; and if you want a really good parlour bird, get a well-trained linnet mule; its execution is brilliant, and its piano notes are the softest and most melodious that can be imagined. The linnet is a quick learner, and a most docile and affectionate bird; it may be taught all sorts of amusing tricks, and after a little training may be allowed to fly into the garden and shrubbery without any danger of its deserting its home, and the persons to whom it has become attached.

THE LESSER REDPOLE.

This bird possesses most of the good qualities of its congener just described, except its powers of song, which are very inferior. It closely resembles the siskin in shape, and in its habits the blue tit, being almost incessantly in motion, and clinging about the trees in all kinds of attitudes. It is partial to the birch and alder woods, on the seeds of which it feeds, as it does also on those of the thistle and other plants. The nest is placed in a low bush, and formed of grass, moss, and downy filaments. The eggs are four or five in number, of a pale bluish green, spotted with brown. Vast numbers of these pretty birds sometimes in the winter come to this country from Norway and Sweden, and are taken by hundreds, by the London bird-catchers, who generally find purchasers for them, tempted by the brilliant crimson on the crown of the head, and bright carmine tint on the sides of the neck and breast. At the first month, however, the latter generally disappears, and at the second changes to a greenish yellow, leaving the bird with few attractions, except its vivacity and docility. "It is," says Bechstein, "a very affectionate bird, constantly caressing, not only its own mate, but even other species of birds." It may be fed upon the same food as the common linnet.

THE MEALY AND MOUNTAIN LINNETS.

The former of these is a very beautiful and very rare bird in England. The colour of its plumage is chiefly gray, delicately marked and shaded with yellowish brown, with a faint rosy flush on the fore part of the neck, breast, and rump, and a bright crimson patch on the forehead; we have never seen it as a cage bird, nor does Bechstein speak of it as such. The next species is considered by this author as but a variety of the common linnet, which, when the latter is in its plain brown plumage, it very closely resembles. British naturalists, however, have shown that it is specifically distinct from, although very closely allied to, that bird. Bird-catchers say, that they can always tell whether there are any mountain linnets in a flock by the peculiar cry, *twite! twite!* by which name the bird is sometimes called. It does not appear that they are very successful in capturing the bird, for it is never seen either in the shop of the dealer, or the cage, or aviary, of the private bird-fancier. We know of no reason why both these species should not be domesticated, and do not doubt but they might; their treatment should be the same as that prescribed for the other linnets.

GROSBEAKS.

The grosbeaks are closely allied to the finches, as well as to the crossbills; most of those known as cage birds, are foreign species, and rare in this country; indeed, the only native bird amongst them is

THE PINE GROSBEAK,

Sometimes called the greater bullfinch, and sometimes the hawfinch—the latter name, however, belongs to another species, which we have already described. With the exception of the peculiar construction of the beak, this bird is almost identical in form, colour, and habits, with those just treated of; true, it is larger, and the head and bill are more of the bullfinch make: the white margins to the wing feathers, too, are distinctive, reminding one of the American crossbill, of which a few specimens have been obtained in this country. Bechstein describes this bird as having an

agreeable song, which it continues through the whole year, and often during the night, on account of which, and its great tameness, it is often caught and kept in confinement: seldom does anything more than the skin of the beautiful red-plumed songster find its way here; should any of our readers be fortunate enough to obtain a live specimen, they must give it the same kind of food as that recommended for the crossbills.

THE CARDINAL GROSBEAK.

This is a large and handsome species, measuring about eight inches in length, and having a dress of beautiful bright red, which is finely relieved by a small portion of glossy black about the head and throat. It is a North American bird, and is described by Wilson as being in song from March to September, "beginning at the first appearance of dawn, and repeating a favourite stanza, or passage, twenty or thirty times successively, sometimes with little intermission, for a whole morning together, till, like a good story too often repeated, it becomes tiresome and insipid. But," adds the naturalist, "the sprightly figure and gaudy plumage of the red bird, his vivacity, strength of voice, and actual variety of note, and the little expense at which he is kept, will always make him a favourite." And a favourite the Virginian nightingale, as this bird is commonly called, on account of the richness and variety of his song, well deserves to be; all through the year, except during the moulting season, it discourses most exquisite melody, sometimes so loud as to make the ears tingle again. The hen of this species, which is of a reddish brown colour, is said by Wilson, often to sing nearly as well as the male, and when kept in the same cage is sometimes destroyed by the cock, owing, it may be, to jealousy on this score. The bird, when wild, feeds chiefly on maize and buckwheat; in captivity it will live many years upon millet, canary, rape, and hemp seed. We cannot learn that the bird has been induced to breed in captivity, although Bechstein says, that attempts to this end have been made in detached aviaries.

THE WAXBILL

Is a pretty little bird, scarcely so large as a redbreast; it

has a bright red beak, and a stripe of the same colour passes between the eyes, the rest of the plumage is brown and gray, the former more or less tinged with red, and the latter having a peculiarly soft and silky appearance, from being traversed by fine blackish wavy lines; the tail is wedge shaped. The colours of these birds vary greatly in different individuals; in some there is an intermixture of yellow, some have white spots, and some again have been observed with a strong tinge of blue about the neck and throat. The waxbills are natives of the Canary Isles, Madeira, Senegal, the Cape of Good Hope, and India, from whence they are frequently brought to Europe; they are gentle and engaging little creatures, exceedingly affectionate one to another, living harmoniously together, several pairs in a single cage. The best food for them is millet. They must be kept tolerably warm.

THE AMANDAVA.

This is a truly beautiful little bird, not more than four inches in length; it is brought to Europe from Bengal, Java, Malacca, and other parts of Asia; its beak is a rich crimson, and all the head and underparts of the body bright red; the feathers on the back are gray, but with so wide a margin of red, that here, also, this seems to be the prevailing colour. Most of the larger feathers, such as those on the wing coverts, the tail, &c., are tipped with white, so that the bird appears distinctly spotted. The female is about a third less than the male; she has but little of the fiery red about her plumage, and the under part of her body is a pale sulphur colour; sometimes, also, this is the case with the male, so that the size is perhaps the best criterion of the sex.

These are very social birds, and a number of them may be kept together in one cage; they will perch in a row, and, Bechstein says, sing in succession; their song, which lasts throughout the year, is soft and agreeable, like that of the willow wren. They are active lively birds, and will live from six to ten years in confinement; they should be fed upon millet and canary-seed, of which they require an abundant supply, as well as plenty of water.

THE PARADISE GROSBEAK

Is a bird nearly six inches in length, with flesh-coloured beak and feet, red head and chin, and the rest of the body brown and gray, spotted and barred with black and white. The male and female are alike. This species has a feeble song, which it utters throughout the year; it has been induced to breed in the English aviary. Millet and rape, with a little hemp-seed occasionally, is the best food for it.

THE GRENADIER GROSBEAK

Is about the size of a sparrow, with dull flesh-coloured feet, and a black beak; the throat, neck, and upper parts of the breast, as well as the rump, vent, and tail, are crimson; the wings dark brown, or dark gray, with reddish white shafts; nearly all the rest of the body is a rich velvety black; the upper part of the neck has a swollen appearance, the feathers there lying more loosely than elsewhere: these birds are most beautiful while moulting. The female is chiefly brown and gray, much resembling the hen sparrow, and in a wild state, after the pairing season is over, the male becomes like her; in July he resumes his crimson and black attire. These birds are common at the Cape of Good Hope; they have a weak song like that of the siskin; they should be kept in a small cage, and fed on canary-seed.

THE DOMINICAN GROSBEAK

Is about the size of a lark, and comes from Brazil; its only utterance is an occasional harsh cry: the head, throat, and upper part of the neck are of a bluish tint, and black and white, more or less intermixed, prevail throughout the plumage, the only exception being the lower mandible, which is flesh-coloured. It should be treated as the last species.

THE CAPE GROSBEAK

Is a handsome bird, about the size of a bullfinch, with a wedge-shaped tail of a velvety black, which is also the colour of the head, the neck, the top of the back, and the whole under part of the body, being thus beautifully re-

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SONG-THRUSH.—P. 117.

lieved by the bright golden yellow of the sides, rump, and smaller wing coverts; the pinion feathers are dark brown, edged with greenish yellow, and the scapulars bright brown, with red gray margins. The female does not greatly differ from the male; she has a little more of gray in her plumage, and the male, after pairing time, and after the second moult, is said to resemble her. The name of this bird tells us from whence it comes; it has no powers of song, is easily kept in a cage, where it should be placed either alone or with a female; its food is hemp and canary seed.

THE CAFFRARIAN GROSBEAK

Is a bird somewhat larger than the bullfinch, with a tail twice as long as the body, which is slightly erected, and worn only during the pairing season. The prevailing colour of the plumage is a rich velvety black; the shoulders are blood red, the wing covers white, as are the margins of the brownish gray pinion feathers. The plumage of the female is mostly gray, with a little red upon the shoulders. The male bird wears his rich dress from November until the spring is over, at other times he is much like the female. This bird is a native of the Cape of Good Hope, and is found far inland; it is very rarely brought to Europe. It requires a large cage, and may be fed on canary-seed.

THE BLUE GROSBEAK.

This species is about the size of the common crossbill. It is found in North and South America. The whole of the plumage is of a deep blue, excepting the larger wing-coverts, which, with the central tail-feathers, are dark brown; the shoulders are slightly tinged or spotted with red, and there is a greenish tinge on the under side of the wings and tail. The female is brown, with a slight admixture of blue. This bird is very rarely seen in Europe. It has an agreeable song, and the recommendation of great beauty: the best food for it is canary-seed. This appears to be the indigo finch of Wilson and other writers on American birds.

THE AZURE GROSBEAK,

Or, as some say, ultramarine grosbeak, has been generally considered as a variety of the last species; it is, however, an

African bird, and therefore this can scarcely be the case: the size is somewhat smaller, and the blue of the plumage more deep and intense; the collar, pinion, and tail-feathers are black, the margins of the wing-coverts a rich yellow, and the feathers of the vent and thighs have white edgings.

This very beautiful and engaging little bird will live long in confinement if fed upon hemp and canary seed and bruised oats; it has a soft agreeable song, like that of the siskin.

THE YELLOW-BELLIED GROSBEAK

Is about the size of the chaffinch; the whole upper part of the body is of an olive green, and the under side, from the breast to the vent, a bright orange; the head and neck are dull blue, of a lightish tinge. Birdsellers aver that this is the female of the blue grosbeak, and in confirmation of this it may be stated that they agree well if put into a cage together; but this, it appears, is brought from the Cape of Good Hope—at all events, a yellow-billed grosbeak very like it is; the French call this latter bird *Le Grosbec Jaune du Cap de bonne Esperance;* and naturalists differ in their statements of the relationships of the different species, if different they be.

THE GOWREY GROSBEAK

Is a native of Java, and about the size of a linnet: the whole upper part of the body, and down as far as the breast, is a rich chestnut brown; there is a purple spot on either cheek, which is only seen in the mature bird and in the male; the sides are white, tinged towards the belly and vent with red; the wings and tail, which is short and conical in shape, are dark brown; most of the feathers have a heart-shaped edge of black. The female is much like the male. Canary-seed is the best food for these birds, which are gentle and affectionate creatures; they have a weak twittering kind of song.

THE BANDED GROSBEAK.

Dealers call this bird the Indian sparrow, although it comes from the coast of Guinea; it is about the size of a linnet, and has a sharp, conical beak, thick at the base, and

compressed in the middle, this is bluish gray, and the same colour, only of a reddish cast, spreads over the whole upper portion of the body; the belly is black, with reddish white spots, and a dark purple band passes round the cheeks and chin; the under part of the body and rump is gray brown, tinged with red, and many of the larger feathers are edged and barred with black. The colours in the female are paler, and the band around the neck is wanting. These birds have a note very like that of the sparrow; they may be fed on canary-seed.

THE BROWN-CHEEKED GROSBEAK

Is about the size of a siskin; it has a short, thick beak, of a grayish brown colour; the feet are flesh-coloured; the cheeks brown, with yellow margins, this tint extending down the throat, and behind the ears: the short conical tail is of a dingy light green, as are also the head, back, and wings; the breast and belly ashy gray. The female is without the yellow margins to the cheeks.

This bird is a native of Mexico; it has a soft flute-like voice, and animated and agreeable manners. It should be kept in a cage, and fed upon canary-seed and millet.

THE MALACCA GROSBEAK

Is brought from the East Indies; it is about as large as the greenfinch; the back and feet are ashy gray; the head and neck, and part of the belly, are black; the back, wings, and tail, bright chestnut; the breast and sides of the belly, white. It is a stout, handsome bird, and has a strong, shrill voice; some of its notes are not unpleasant, others exceedingly harsh and disagreeable. But little seems to be known about its changes of plumage; Bechstein says he has seen males which have moulted and remained the same, without any white on the breast or black on the belly. Edwards has figured what he thought to be a female of the species, in which the pinion feathers and tail are black, but this may have been a different species. The bird thrives well upon hemp and canary seed, and lives long in confinement.

THE CLOUDED GROSBEAK.

This is a rare bird in Europe. Bechstein confesses to have seen but two, and describes it as about the size of the sparrow, with a thick beak of a whitish gray colour, large lead-coloured feet, plumage generally black, with white upon the rump and vent, and reddish gray on the wing coverts: the lower part of the body is clouded with gray, which, after each moulting, becomes more bright and distinct. This is an African bird, being found chiefly at the Cape. It has no song, properly so called, but keeps up a continuous twitter: it becomes very tame, and will live long in confinement. Should be fed upon millet, rape, canary, and hemp seed.

THE RED-BILLED GROSBEAK.

This is also a native of Africa, and about the same size as the last species, from which, however, it differs considerably in colours and markings: it has a blood-red beak, very thick and bald at the base; the upper part of the body is grayish brown, with darker longitudinal stripes; the under part is bright reddish brown; the pinions and tail-feathers are dark brown, edged with reddish gray; the feet and eyelids are flesh coloured. This is a pretty and agreeable cage bird, with a soft song; it is very gentle and affectionate. The female has no black markings on the head, as the male has, and the under part of her body is yellowish white.

THRUSHES.

Most of the British species comprised by naturalists in the *tardus* or thrush genus, are large well-known birds, and good songsters. They feed chiefly, when wild, on worms, insects, and soft fruits, in search of which they frequent the pastures and cultivated grounds. Their nesting and resting places are the woods and thickets: they build mostly neatly constructed cup-shaped nests, and lay five or six eggs. This short summary of their general habits will, perhaps, be all that is necessary for us to say about them other than as cage birds.

THE COMMON THRUSH,

Or song thrush, as it is sometimes called, the mavis of the Scottish poets, and old English writers generally, is too familiar a bird to need any description. Few, if any, birds have a natural song at once so sweet and powerful as this, and none have a nicer ear and a more retentive memory. Take a young male, and instruct it carefully by means of a flageolet or flute, and it will not only repeat the air played to it, but imitate the very tones of the instrument with astonishing fidelity. We have heard thrushes thus instructed whose strain seemed to us the very perfection of melody, such as only a skilful performer could produce: and such a one as this is really a valuable bird; better than all your screeching macaws and screaming parrots, however resplendent may be their plumage, and amusing their tricks. Give us the plain, sober-suited, speckled-breasted thrush, with its loud sweet song morning and evening, its vesper and matin chants, and never a gaudy stranger would we desire, although its plumes might be really, as they sometimes seem, veritable sunbeams of the tropics, diffusing light and warmth around. If you want to find a thrush's nest you should look in a holly tree, or some thick close bush; it will not be far from the ground, but you will most likely have to prick your fingers to get at it. The materials are twigs, moss, and grass, closely interwoven. On this is a layer of cow-dung, covered over with a smooth coating of particles of decayed wood, cemented together by glutinous saliva; the eggs are light blue, somewhat speckled at the larger end with black. You will generally find the first brood fledged by the beginning of May, but you should endeavour to get them before this, when they are about ten days old, if you wish to give them a thorough education. They may be brought up without much difficulty upon white bread, soaked in milk, and raw lean meat scraped fine, and mixed with it. As soon as they can perch let them be put into separate cages, or, better still, turned into an empty room; the young males will soon begin to warble, and may then be selected for the musical class. It is difficult, and often impossible by any other means than the song, to determine which is the cock of this species. You cannot judge by the

plumage, even in the mature birds; Bechstein points out several marks of distinction, but they are by no means to be depended on. Never, therefore, purchase a thrush until you have heard it sing, and if its song is perfect, and the bird seems healthy and cheerful, do not begrudge a good price for it.

These birds are very fond of bathing, and may often be caught in the water-trap, especially in September and October, early in the morning and late in the evening. In the spring a fine-toned male may often be secured by means of a decoy and limed twigs. Barley-meal moistened with water —Bechstein says milk, but we do not advise this—should be given as a general diet: as occasional delicacies, snails, which the bird likes to crack, bits of raw or cooked meat and vegetables. This bird should have plenty of water and a good large cage, well sanded; in this way it will live and delight you with its song for six or eight years. In Thuringia, it is said, they sometimes teach the thrush to articulate words. Dealers speak of several varieties of this species, such as white, white-headed, mottled, gray, &c., but these are merely changes of plumage.

THE MISSEL THRUSH.

We scarcely know if the large, noisy, storm cock, as he is frequently called, should be included here, but as he is sometimes kept in confinement, chiefly, we imagine, on account of being a very fine and a docile bird, we will give him the benefit of the doubt. This may be called the king of the thrush family, being about ten or eleven inches in length, and stout in proportion. Its habits are much the same as those of the common thrush, and it may be fed and treated in a precisely similar manner. It is called the missel thrush on account of its fondness for the berries of the mistletoe plant, and storm cock because, as Gilbert White says, it sings early in the spring in blowing showery weather. Bechstein describes its natural song as clear and melancholy, consisting of five or six unconnected notes. It is too loud for the sitting room, and its cage should, therefore, be hung in an ante-room or large hall. The Germans do not send us any of these birds, probably not thinking them worth the trouble of instructing; but they are sometimes

taken by English birdcatchers, who offer them for sale. When first captured they are very wild, and will sometimes refuse to eat, and die in consequence. After a time they generally become very tame.

THE BLACKBIRD,

Or black thrush, as it ought, perhaps, to be called, is another very common and favourite species; it is sometimes termed the garden ouzel, and such writers as have called the brown thrush the mavis, have generally spoken of this as the merle; it is the handsomest bird of the thrush genus, with its jetty plumes and golden bill, and second to none in powers of song; its notes are, indeed, more rich and mellow than even those of its speckled-breasted congener, but they are not so various, nor so nicely modulated. When wild the blackbird sings from March to July; it may be heard at all hours of the day, but more especially early in the morning and late in the evening. Like most of the non-migrating birds it is an early breeder, and often has young in its nest by the end of March; this nest is somewhat bulky, composed of grass, moss, and other materials; the inside is generally plastered with mud, and lined with fine grass, stalks, and hair; the eggs are bluish green or gray, thickly speckled with brown. The young should be taken as soon as the tail feathers begin to show themselves, and reared upon bread and milk, with an occasional treat of chopped snails, grubs, or caterpillars, or bits of raw lean meat; the darkest in plumage are the males; they may be taught to whistle airs very perfectly, to imitate the songs of other birds, and even to articulate words.

The merle is a shy bird, and generally difficult to catch; it will seldom come to the barn-floor trap; after dusk it may sometimes be taken in the water-trap, and in winter, when pressed for food, in the large tit-trap, and by means of nooses and springes baited with service berries, or limed twigs set round a space cleared of snow. When wild its food is the same as that of the common thrush; in the aviary it will feed on the universal paste, or, indeed, almost anything that is given to it; but it is best kept in a large cage, as it is apt to be tyrannical, and will sometimes, like the titmouse, kill weaker birds. It is fond of bathing, and therefore should

be allowed plenty of water: if properly treated, it will live long in confinement—Bechstein says, from twelve to sixteen years. The female of this species differs considerably in colour from the male; instead of the beautiful glossy black, her plumage is more of a brown, but with gray margins to most of the feathers; until after the first moult the young birds most nearly resemble the female. Several so-called varieties of this species are spoken of, such as gray, variegated, white headed, and even white blackbirds, strange as the term may sound; we would rather avoid the misnomer, and say white ouzels; all these, however, may come from the same nest, and have nothing distinctive about them, except the accidental change of plumage.

THE RING OUZEL

Is a summer visitant only in Britain; it is somewhat larger than the blackbird, which it closely resembles in general conformation and manners. The plumage is generally black, with a crescent-shaped mark of white across the upper part of the breast, which, viewed in front, looks like a broad ring encircling the neck—hence the common name of the bird. It is a shy wild species, inhabiting chiefly rocky glens and ravines; it builds a nest much like that of the blackbird, and places it on the ground, commonly under the shelter of some precipitous bank, hidden by rank herbage, and near to a stream. Its eggs are like those of its jetty-plumed congener, and its mode of treatment in a confined state may be the same as is recommended for that bird. Its voice is described by Bechstein as hoarse, hollow, and so weak, that a redbreast can overpower it; yet it is, he says, not disagreeable. We are not aware that any attempts have ever been made to cultivate its musical powers, but we see no reason why such should not be successful; it is a handsome bird, and according to Hewitson, sings sweetly when wild; Selby says, clearly and powerfully, although the notes are few, and this is as much as could be said of the untaught song of the blackbird. It sings in confinement all through the year, except when moulting, and will live six or seven years.

THE WATER OUZEL,

Or dipper, as it is often called, is a very interesting species,

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on account of its peculiar habits; it is not properly a thrush, although closely allied to the turdine genus. We have never seen it as a cage bird, nor do we think it likely that it could be kept as such without great difficulty, although Bechstein says, that the young, which should not be taken from the nest until nearly fledged, can be easily reared on meal-worms, ants' eggs, and bread soaked in milk. The want of "water privileges" so to speak, would, we apprehend, be the great obstacle to keeping the dipper in a healthy state in the aviary; in its wild state it frequents the banks of rivers and streams, beneath whose surface it often goes in search of food, which consists chiefly of aquatic insects, small fish, and molluscæ. It is about the size of a starling, and has longish legs, a stout body, and short cocked-up tail, like that of the wren: white, black, brown, and gray, are the colours of its plumage; its eggs are pure white, and its nest of root fibres, grass, and moss; it is usually placed among stones amid its favourite haunts. It has a sonorous song, not unpleasant, especially, as Bechstein observes, when heard in the open air and in the winter; this author tells us that it may be taken without difficulty by means of limed twigs, baited with live meal-worms, and that it may be inured to the universal paste by a judicious use of meal-worms, ants' eggs, or flies.

THE GOLDEN ORIOLE.

As we have travelled out of the thrush genus, we may as well go a step further, and include this very beautiful and, to us, rare bird. The orioles are chiefly inhabitants of the warmer parts of Asia and Africa, and this one comes as a migrant every year into Europe, and occasionally visits Britain. It is about the size of a blackbird, but of a more slender make, and altogether of a more elegant and distinguished appearance; the principal colour of the plumage is a rich golden yellow, beautifully relieved by black on the wing coverts and tail; the female has less of this golden tint, and more of olive in her dress. Most persons have read an account of the curious purse-shaped nest of the golden oriole, but as the bird does not breed with us, we need not occupy our space with such particulars, nor say aught about modes of capture, nor treatment of young.

Orioles when wild feed upon fruit and insects; in confinement they should have a good proportion of such food—cherries they are especially fond of; they must be kept in a large cage, and not let loose in the aviary, as they are quarrelsome and spiteful. The cage at night should have a thick covering, or they will be very restless, and rub off their feathers against the bars. The captive male becomes like the female, losing the beautiful black and yellow colours. They have not much of a natural song, but may be taught to pipe and whistle airs, if taken young.

CROWS, &c.

Among the corvine birds, or crows, are several species which, on account of their entertaining manners and facility of uttering articulate sounds, are frequently found in a domesticated state; they are neither very elegant nor very cleanly cage birds, but they are often extremely amusing, and although generally full of mischief, and at times spiteful and savage, yet we tolerate and even cherish them in and about our homes, for the same reason as induces us to make pets of monkeys, and bosom friends of some really very disgusting, unclean, and unloveable creatures. And what is that reason? If our readers seriously ask the question, we must confess our inability to answer it. The philosophy of the thing has yet, we fancy, to be discovered. Perhaps, to a believer in the doctrine of transmigration of souls it might be all clear enough; ties of relationship, and so forth, would explain the matter; but to us it does appear a great mystery, about which we do not care to bother our brains at present, our business being not to explain *why* these greedy, thievish, noisy, and conceited feathered bipeds are thus cherished and protected, but how they are to be treated in that state of dependency on man in which it pleases us to place them.

THE RAVEN.

This is the king of the crow family, a grave, stately bird, with a saintly aspect, and a voice that sounds like one from a sepulchre; a grim, ungainly creature, for ever turning his head to look over his shoulder, as though pursued by an evil conscience. A strange mystery seems to hang about the raven—a shadow that may not be lifted: he is the bird

of night, and of doom, and of all kinds of dreariness; and if half the stories are true that are told about him, he must possess an intuitive knowledge of things celestial and terrestrial, greater than any witch or wizard that ever flew upon a broomstick, or fished with the rod of enchantment for the souls of men.

If you have a fancy for a pet raven, and cannot purchase one already tamed, try and get a nest of young squabs: it is not easy to do this, for the bird chooses the tops of very high trees and inaccessible places to build in, and the species is by no means plentiful in this country; however, it may be done: try and get the little croakers when about half fledged, that is, twelve days' old or so; feed them upon bread and milk, meat, raw or cooked, worms, cockchafers, and other insects, and the entrails of rabbits, fowls, or pigeons. When fully grown, they will eat almost anything, and will need no pampering; candles, soap, or shoe leather—nothing will come amiss to them—and what they cannot eat they will pull to pieces, or hide away in some cunning hole or corner. When young, you may easily teach them to talk, by repeating to them frequently the words you wish them to utter, rewarding their efforts at imitation with some dainty morsel of food: there is hardly anything that a raven cannot say, if pains be taken to teach it, and the memory of the bird is truly wonderful: the amusing anecdotes which one might tell of its powers of speech would fill a good-sized book, but here we have no room for anecdotes.

Ravens are generally allowed the range of the premises, but it is best to let them have some snug corner in an outhouse, a trellissed pen, with a canvas or wooden roof, in the yard, or other sheltered place to retire into when they please; they are dirty birds, and should not be allowed to harbour or sleep in the kitchen, or in any part of the dwelling. These birds often live to a very great age, and become quite heir-looms in a family; their once glossy black coat then becomes rough and rusty-looking, and is sometimes spotted with gray.

THE JACKDAW.

This bird is very easily tamed; in its natural state it is

bold and familiar, and soon becomes accustomed to the care and company of man; it is pert, lively, and amusing, and seems to understand readily all that is said to it. With speaking powers, perhaps, inferior to those of the preceding species, it is more highly prized on account of its companionable qualities: it will frequently become so tame as to follow his master in his walks, to fetch and carry, and come and go at command. Old birds, when taken, should have their wings cut, and this operation must be repeated twice a year, in spring and autumn: after a while, they may be suffered to go at large, and to visit their old haunts in the church steeple, or ruined turret, rocky ledge, bank, or hollow tree; to such places, those who want a nest of young jackdaws must resort; they should not be taken until nearly fledged, and may be brought up on the same kind of food as young ravens. If hung out in a wicker cage near their places of birth, the parent birds will frequently attend to them until they are old enough to care for themselves, when they will soon make friends with the cook, and manifest a great desire to learn all about the operations of the culinary department of the establishment.

THE MAGPIE.

Who does not know and admire the cunning magpie, with its head constantly awry, prying into the secrets of every nook and corner, and purloining whatever it can lay its bill upon, especially if it be of a bright and glittering nature? A truly handsome bird is "the chattering pie:" to see him in the sunshine, with his rich black and white plumage, bronzed with green and purple on the wings, and long tail, sometimes spread out like a fan, is a sight worth looking at. If ever we make up our minds to have one of the crow tribe as part of our family circle, this will be the bird: but then the silver spoons? Alas, that the beautiful should not always be the good! These birds, if taken from the nest when quite young, that is, about a fortnight old, and carefully instructed, will imitate the human voice, and almost any other sound. They should be fed at first on bread soaked in milk and water; afterwards on meat, raw or cooked, chopped small; and when they have nearly acquired

their full growth any refuse kitchen stuff will do for them: they are fond of rotten apples and pears, which are useless for any other purpose. When nearly fledged they may be allowed to fly to a neighbouring tree, and lured back by means of food. A good deal of liberty may at all times be allowed them: if well fed and treated they will not abuse their opportunities of escape. It is well to clip their wings twice a year.

THE JAY.

This beautiful bird may be not unfrequently seen confined in a wicker or other large cage: it is docile and teachable, and learns to utter words, though in a very unconnected manner. Bechstein says that it can also be taught to imitate little airs on the trumpet, and the songs of other birds, but we have never seen one so accomplished. The nest of the jay, like that of the magpie, is generally built in a tall tree: the eggs are five or six in number, of an ash colour, spotted with brown. The young should be taken when about fourteen days old, and fed on curds, bread, and meat. The old birds are very fond of nuts and acorns: they will eat bran soaked in milk, and a great variety of substances; but the best food for them is wheat. They are dirty birds, and apt to soil their plumage, which spoils their appearance: give them plenty of water for drinking and bathing. If you want to catch an old jay or two, place limed twigs in a particular spot, and then imitate the cry of an owl: between these two birds there seems to be a natural enmity, and the *whoo whoo* of the goggle-eyed hooter will generally attract a considerable number of the blue-winged screamers. In Germany the jay appears to be more esteemed as a cage bird than it is in this country: the peasants of Thuringia take great pains with its education.

THE STARLING.

Lawrence Sterne has given to this pretty and clever bird a wide spread reputation. "I can't get out" are the words which seem to greet our ears whenever we speak or think of it. A lively bird is the speckled stare, as many people call it, and a general favourite on account of its sociability and attractive qualities, even more than its beauty. A constant resident in this country, and generally, although locally

distributed, it is in its wild state a tolerably familiar bird, and, therefore, scarcely needs a description. Its general nesting places are hollow trees, old buildings, and holes in rocks and chalk pits. Its eggs are of a pale greenish blue colour, of a longish oval form, and about an inch and a quarter long. It is a gregarious bird, and flies rapidly, feeding generally on insects and worms, for which it hunts the pasture and arable lands, frequenting most those in which sheep or cattle are fed. It is especially fond of the small meadow grasshopper, and takes both fruit and grain in due season. It sometimes frequents the shores for marine worms, and marshy places, where nets are often set in the reeds for its capture. This may also be effected in the winter by means of limed twigs set round a spot cleared of snow, baited with worms.

The starling belongs to the crow tribe, of which it is the smallest resident species. It is a most elegant bird, both in shape and colour, and one whose powers of imitation are only equalled by its docile and affectionate disposition. Young starlings should be taken from the nest before they are fledged, and reared upon bread and milk: they will learn to whistle an air more clearly and perfectly than almost any other bird. Their memories, generally speaking, are excellent, so that there is seldom any confusion of the passages, that is, if they are thoroughly and carefully taught; the females, as well as the males, are capable of being so instructed. Sagacious as a dog, and as gentle and obedient, too, the starling well deserves to be what it is, a great favourite with most bird-fanciers; it will talk like a parrot, perch upon the shoulders of those it loves, caress them, and follow them whithersoever they go; it is gentle and kind to its fellow inhabitant of the aviary, is subject to few diseases, and generally a long liver. Its natural song is by no means unmelodious, having a peculiar harp-like sound. It will eat the universal paste, meat, bread, insects—almost anything that is not sour. Water to drink and to wash its glossy speckled plumes the starling requires in plenty, as it adds cleanliness to its other good qualities.

PARROTS.

We now enter upon the consideration of a tribe of birds

totally distinct from any that we have yet described—a large-billed, harsh-voiced, gaily-attired family, including very many species, most of which are natives, and, in a wild state, inhabitants of tropical countries. These birds are placed by most naturalists in the *scansorial*, or climbing order, and under the generic term *psittacidæ:* their claws, which are stout and muscular, are admirably adapted for grasping and climbing, being armed with sharp curved talons, and peculiarly placed—two of them projecting forward, and two backward. They have a thick fleshy tongue, which accounts for their extraordinary powers of articulation, and are altogether very remarkable and interesting birds. Of their habits in a wild state it does not fall within our province to speak at any length, but we may state one or two general facts. They feed much upon the kernels of fruits, and for cracking the hard shells which cover these, are provided with a powerful instrument in the bill, the muscles regulating the movements of which are strong and numerous; the upper division of this beak is bony, and is connected with the skull by means of a joint, so that, unlike most animals, which can move the lower jaw only, parrots can move both. The tongue is a highly sensitive organ of taste, closely resembling that of the human species; the surface membrane is covered with little irregular dots, and moistened with saliva. They are mostly gregarious birds, and have a rapid, elegant, and vigorous flight, capable of being long sustained. They build chiefly in hollow trees, laying but two eggs at the time, and breeding twice a year; the period of incubation varies in different species, but generally it is about twenty days; the young are not full grown until they are twelve or fifteen months old, nor do they acquire their full beauty of plumage until some time after this. Very rarely has it been known that they breed in confinement; in this country we believe they have never done so. They are long lived birds, not unfrequently attaining the age of forty years—in one or two instances as much as eighty. La Valliant mentions one which he saw when it was ninety-three years old.

Plutarch, Ovid, Pliny, and other Greek and Roman writers, allude to parrots, which must have been introduced into Europe at a very early period. They appear to have

been high in favour with nobles and princes, and to have been held in something like religious veneration by the common people. When they were first brought into this country has not been clearly ascertained. It will be convenient for our purpose to arrange them into six divisions, viz., *macaws, parrots, parrakeets, cockatoos, lories,* and *love-birds.*

THE RED AND BLUE MACAW.

This is one of the largest of the parrot tribe, being about two feet eight inches long, or as large as a good-sized fowl. The prevailing colour of its plumage is a bright vermilion; the back and rump are light blue, and the larger wing-coverts have a portion of this colour, mingled with green and yellow; a whitish wrinkled skin covers the cheeks, similar in colour to the upper mandible, which projects considerably beyond the lower, where the hue is blackish; the feet are gray.

THE BLUE AND YELLOW MACAW

Is about the same size as the above-named species, of which it is by some thought to be only a variety. It is a very beautiful bird, handsomer, as many think, than its scarlet relative, although its hues are not so gorgeous. The whole upper part of the body is a rich blue, changing at the smaller wing-coverts and sides of the neck, and top of the head, into pale green. The whole of the beak is black, and a collar of the same extends part of the way round the throat; the cheeks are pale flesh colour, waved with black; the under part of the body is a fine saffron yellow, and the long wedge-shaped tail is blue, the feathers being edged with violet, and marked at the base with black; the feet are dark ashen gray.

Neither of these macaws exhibit much variation of plumage in different individuals; nor is the female very different from the male. They are natives of Brazil, Guiana, and other parts of South America, where they feed much on the seed of the fan-palm, being generally met with in pairs among the marshy swamps. Old birds can rarely be tamed, and never taught to speak; but the young are docile and intelligent pupils, becoming very loquacious,

and imitating all kinds of noises. They may be fed upon bread and milk, mixed with hemp-seed, which should be previously scalded; broken biscuit should also occasionally be given, and some ripe fruit when it is in season. Meat, sugar, and sweetmeats are frequently given, but these are all unwholesome; they heat the system, and cause the bird to feel uncomfortable, so that it pulls out its feathers and bites its flesh, and becomes a misery to itself, and an unsightly object to look upon. Macaws drink but little, perhaps because their food is generally moist; but they should always have water within reach; bathing keeps them in health and promotes cleanliness, which is very necessary, as they are naturally dirty birds. They are best kept upon a stand, fastened with a small chain; but they should be cautiously approached by strangers and children, as they are apt to be spiteful. They show to most advantage loose in an aviary, where they have space to display their re splendent plumes.

THE GREAT GREEN MACAW.

This, like the preceding species, is a native of South America; but if we may judge from its extreme scarcity and high price in Europe, it must be a much rarer bird. It seldom exceeds two feet in length, including the very long tail. The plumage is nearly all of a green colour, varying from a grassy tint to a deep olive, and running at places into a blue. The beak is large and black, the feet brownish flesh colour, and in the rump feathers there is a slight admixture of red; the two middle tail feathers are much longer than the rest; this, indeed, is the case with all the macaws that we have seen; and these feathers, like the rest of those on the tail, are red at the roots, blue in the centre, and green at the tips. This is a very docile and talkative bird, if the manners of the few specimens which we have had an opportunity of observing may be taken as indicative of its general character. It may be treated like the macaws last described, with which it makes up a beautiful family group, although he would be a fortunate fancier who possessed them all. From these graceful and elegant creatures, conspicuous on account of the

length of their tails, we must now divert our attention to those generally distinguished by their short and even tails

THE ILLINOIS PARROT.

This is a well-known species in England, being that which is most commonly met with in the shop of the dealer, and, as a matter of course, in the private residence. It is taken in great numbers in the more southerly of the United States, and forms quite a considerable article of export trade. It is not nearly so large as the macaws, being usually about nine inches long; the prevailing colour of the plumage is a rich green, which changes in the under parts of the body to yellowish gray; the forehead, cheeks, and throat are a brilliant orange colour; the beak is light gray; and the eye encircled with a naked skin of the same tint. This bird, in its native savannahs, associates in flocks of several hundreds, and, in confinement, evinces the same sociability of disposition: it is gentle, affectionate, and intelligent, although by no means so fluent a talker as some of its tribe. It feeds, when wild, much upon chestnuts, acorns, and peas, which may occasionally be given to it in confinement; its chief food should be bread and milk. A pair of these birds will live very happily together in a large brass wire cage; they become so attached to each other's company that, if one dies, the other seldom survives the loss long.

THE ASH-COLOURED PARROT.

This bird is a native of Guinea and other parts of Africa: it is about the size of a pigeon, and one of the commonest of the domesticated species; the plumage throughout is of a silvery gray, except the short tail, which is crimson, and the bill, which is black. A gentle and familiar bird, a capital mimic, and a fluent talker, the plain gray parrot is a more general favourite than many of its gaily-attired congeners: it is one of the few parrots which may be trusted with children, the company of which it really seems to prefer In its wild state, this bird lives almost entirely on fruit and grain: it is very fond of the seed of the sunflower, on which it thrives and grows fat; bread and milk and fruit should be its diet in confinement; dainty morsels from the table it will be well pleased to receive, but it is mistaken kindness to give

them; swollen and gouty feet are generally the result of such indulgences, and for these there does not appear to be any cure. Buffon relates that a pair of birds of this species bred in confinement for several successive seasons; but this was in the South of France, where the climate is more genial than with us. They have, however, been known to lay eggs in this country several times.

THE AMAZON PARROT.

This is another common species in England, being brought over in great numbers from South America: it is about the same size as the gray parrot; its plumage is chiefly green, changing in many parts into yellow, and marked here and there with red, blue, and black; the bill is of the latter colour, and the feet ashen-gray. It is a very teachable bird, and requires, perhaps, less care than any other of its tribe; it may generally be bought cheap.

THE YELLOW-HEADED AMAZON PARROT.

This is a much rarer and handsomer bird than the last; but whoever has it must be content with its beauty alone, as it seems incapable of learning anything, and utters only its natural harsh scream: its colours, though pretty much the same as those of the common species, are more distinct and decided; the top of the head, as well as a band round the knees, are of a rich golden yellow. There are several varieties of this bird—which, indeed, we are inclined to think is itself but a variety of the one last described—as, for instance, one with the forehead a pale yellow, and the general tints of the plumage lighter; another, with the forehead and sides of the head a clear yellow; and another, having the yellow of the head mixed with gray. We need scarcely say that this bird also comes from South America.

THE CAROLINA PARROT

Is, properly, a native of Guiana and other parts of South America; but, migrating in autumn to Carolina and Virginia, is there taken and conveyed to Europe: it is about thirteen inches in length, with a wedge-shaped tail; the front of the head is a deep orange colour, which fades off at the back of the head, neck, and throat, into pale yellow; the rest of the

plumage is chiefly green, with brown and orange markings, and inclining at places to blue. It is a very noisy bird, but a poor talker; its beauty and tameness being its chief recommendations. In its wild state it feeds chiefly on the kernels of stone-fruit.

THE AMBOYNA PARROT

Is a very gorgeous bird, and ought, perhaps, to be placed among the lories, which are distinguished by the richness of their colours: it is about sixteen inches long—the tail, rounded at the end, measuring half this length; the head, upper part of the neck, and lower part of the body, are a rich vermillion; the back is a fine green, turning to blue at the edges of the feathers and on the rump; the tail is black, with faint blue and green stripes, and there is a small band of the former colour extending from the neck downward; the upper mandible of the bill is orange-coloured, the lower black; there is no cere or naked membrane on the cheeks. The female is nearly all green. This bird has a shrill pipe: it does not speak: the feathers are remarkably loose, so as to come off when the bird is handled; but they soon grow again.

THE WHITE-FRONTED PARROT.

This bird, which is found in some of the West Indian Islands, as well as South America, is one of the most common and tractable of the tribe; it has a particular aptitude for imitating the voices of animals, such as cats, dogs, and sheep, which renders it very amusing. It is about the size of a pigeon, and the predominating colour of the plumage is green, intermixed with bright red, the latter tint prevailing on the cheeks, throat, and anterior part of the neck, and edging the pinion feathers: considerable variation in the colours occurs in this bird; sometimes the beak is flesh-coloured, sometimes bright yellow and whitish; now the head, as far as the vertex, is white; now, only the forehead; there is generally a white circle round the eyes, and the feet are dark brown.

THE BLUE-FACED PARROT

Is also a South American bird, being most commonly taken

in Guiana; it is about the same size as the last-mentioned species, has a green body, with blue pinion feathers, some of them tipped with red; the neck and upper part of the breast is also red, the throat and front of the head blue; the feet, and a circle round the eyes, are flesh-coloured, and the bill horn-coloured with an orange stripe on each side of the upper mandible; the tail-feathers are a mixture of green, blue, and red. There are several varieties of this bird, none of which are at all common; it is not easily taught, and has a shrill cry like *gir-gir*, which it utters incessantly.

THE BLUE-HEADED PARROT.

This is an East Indian bird, a very beautiful and by no means rare species; it is about eleven inches and a half long, the tail being about six inches: it has a blue head, and a violet throat, with a silvery reflection playing about it; the whole of the body is green, inclining on the under part to yellow; of this latter colour is also the upper mandible of the bill, the lower one being ashy gray, like the claws, and the naked space round the eyes; the tail-feathers, of which the two centre ones are four inches longer than the rest, vary from green to blue; some of them are lined and edged with yellow. We are not aware that the bird has ever been taught to speak.

THE ANGOLA YELLOW PARROT

Is about the same size as the last; it has a conical tail, over about one-third of which the wings extend when closed: the prominent colour of the plumage is an orange yellow, varied with green and blue; the beak and feet are gray, as is the throat, a circle round the eyes, and the cere. The name of this bird indicates the place from whence it comes: it may be taught to speak very distinctly.

THE MORETON BAY PARROT

Is a smaller species, with golden-tinted plumage, which may sometimes, but very rarely, be met with; it is a splendid bird, and, on account of its rarity, of great value. Of its natural history little or nothing seems to be known; in confinement it may be treated like the rest of its family.

THE GRAY-BREASTED PARROT.

This pretty bird is about ten inches long; it is a South American species, being found chiefly in Buenos Ayres. It very much resembles an owl about the head, the beak being small and obtuse, and the gray feathers of the cheeks much puffed up. Siskin green, verging into yellow, and silvery gray, are its prevailing colours; here and there is a tinge of blue, and the whole of the tints shift and change with the motions of the bird in a very beautiful manner. It is very docile, and readily learns to speak, but rarely lives long in confinement.

THE BLUE-THROATED PARROT

Is an extremely rare bird, about the same size as the ash-coloured species, which it much resembles in its general characteristics; the head, neck, and a portion of the breast are a fine indigo blue, deepening at places into purple; on each side of the head is a spot of black, and one of red on either side of the upper mandible of the bill, which is of a dark horn colour; the back, belly, thighs, and wings are green, shaded with blue and yellow, as are the tail-feathers, and the vent scarlet; the colour of the stout feet is gray.

THE GREEN TRINIDAD PARROT.

This West Indian bird is about nine inches long; it is a handsome, lively species, with a body of dark green, red and blue wings, and scarlet head, the latter is of small size; it is a tame, affectionate little creature, not much of a talker, but interesting from its beauty and engaging manners: it must be kept warm.

THE LONG-TAILED GREEN PARRAKEET.

Parrakeet is the name generally given to the smaller kinds of parrots, from which birds the species placed under this head do not otherwise differ than in size: the term is somewhat arbitrarily applied, so that you will frequently have the same bird called at one time a parrot, at another, a parrakeet, as might be expected, there being no exact boundary line to divide the larger from the lesser kinds.

Of parrakeets, the one above named is, perhaps, the most

frequently seen in this country; in a wild state it is spread over the whole southern part of the continent of America; it is also found in the West Indies. It is a noisy bird, constantly either screaming or talking, whistling, crowing, or chattering, or imitating some discordant sound; by no means delicate in its constitution, nor nice in its choice of food; its predominant colour is yellowish green, here and there ornamented with bright yellow and red; its whole length is about that of a blackbird, but of this the tail occupies more than half.

THE PAVOUANE PARRAKEET

Is an inhabitant of Guinea, Cayenne, and the Carribbee Islands; it is about the size of a missel thrush, and has a tail six inches or more long, the two centre feathers exceeding the rest in length by one-half; green and yellow are its chief colours, the former greatly predominating; the latter deepening into orange on the larger wing-coverts, and flushing into scarlet on the smaller ones; the beak is whitish, or ashy gray, as is the cere; the feet also are gray, but darker; there are some red spots on the cheek, which do not appear until the bird is upwards of four years old. This species may often be purchased of the dealers; it has great imitative powers, and, like the last, is not at all delicate.

THE RED AND BLUE HEADED PARRAKEET.

This bird is a native of South America, and generally comes to us from Germany; it is about ten inches long, with a tail half that length; the forehead is a brilliant scarlet, and the vertex a bright blue, which flows down the neck and mingles with the grass-green of the whole upper part of the body, the under side of which has a golden tinge; the outer margins of the pinion feathers are blue, the tail dark green; the beak, cere, and feet are ashy gray, and the circle round the eyes orange. It is a handsome bird, but not a good talker; it is not difficult to obtain.

THE CARDINAL PARRAKEET.

This is an East Indian bird, chiefly valued on account of its beautiful plumage, being timid and shy, and difficult

to teach; it is about twelve inches long, with a conical tail, occupying six and a quarter of these inches; this tail is very remarkable, the two middle feathers being blue, with white terminations, the rest green. All the colours of this bird are extremely rich; the head is violet, shot with blue and red; round the neck is a ring of glossy black, and the same hue pervades the throat; the back is a deep green, and this colour, brightening into yellow, spreads all over the lower parts of the body; the beak is tinted like a peach-blossom; the cere and feet are silvery gray.

The female of this species has a yellow beak, a head of dingy blue, and no black collar, but merely a faint yellow tinge, which seems to mark the place where it should be. In the young birds the neck-ring is also absent, and the colours of the head are undecided, varying from red to blue, and sometimes green.

The birds known as the BLOSSOM-HEADED PARRAKEET, the ROSE-HEADED RING PARRAKEET, and the BORNEAN PARRAKEET, appear to be but varieties of this species; they are all characterized by the same richness of colour, although in the distribution of the tints they differ considerably; the first of them is sometimes improperly called

THE RED-HEADED GUINEA PARRAKEET,

A title which really belongs to a beautiful species not larger than the common crossbill, known to dealers as the GUINEA SPARROW, to be met with in considerable numbers, as cage birds, all over Europe, and much esteemed on account of their beauty, gentleness, and sociability; the predominating colour of their plumage is green, brightest on the under parts; the front of the head, throat, and beak are rosy red; edges of the wings and lower parts of the back blue; feet and bald space round the eyes gray.

In the female the colours are less bright and distinct, and the edges of the wings are yellow.

These birds appear to inhabit all the southern latitudes of the old world; those imported into Europe have generally come from Guinea, Ethiopia, the East Indies, or Java.

This a delicate species, and requires careful management; the best food for them is bread and milk, with canary seed

and millet: it can only be taught to utter a few words, and that not very distinctly.

THE ROSE-RINGED PARRAKEET.

This bird is also sometimes called the Guinea sparrow: in its habits it closely resembles the last species, but differs from it greatly in appearance; its body is about six inches long, and tail about twelve or fourteen; the general colour is green, of various shades; in the middle of each wing is a large spot of bright red, and the pinion and tail feathers are tipped with yellow; the bill is red, and a collar of that brilliant tint extends from the throat upwards, but not meeting; seated, as it were, upon this, is a black collar, also narrowing towards the nape. This bird is a native of the Philippine Isles, especially Manilla; it has also been found in Africa. All its motions are extremely graceful: its disposition is gentle and affectionate, and hence it is a great favourite, although by no means a fluent talker.

PENNANT'S PARRAKEET.

This is an Australian bird, being found chiefly about Botany Bay: it is about the size of a sparrow-hawk, and has for its predominant colour a fine crimson; the tail is more than half the length of the bird, of a conical shape, and dark blue colour; nearly all the feathers are black at the base, and some of the larger ones edged with bright blue, and barred across with grass green; the bill is horny blue, fading into white at the point; the cere, dark blue; and the feet, brownish flesh-colour. Dealers commonly call this bird the PURPLE PARROT; the female, whose plumage is mostly of a greenish yellow, they sell as a different species, under the name of the PALM BIRD; they are delicate creatures, and somewhat shy and intractable; they have a shrill piping voice, but do not often exercise it.

THE TWO-SPOTTED PARRAKEET

Is brought principally from the South Sea Isles: it is a very beautiful species, about as large as a turtle-dove, of a slender and graceful form, with a long drooping tail; its beak and cere are flesh-coloured, or pale red, the latter having a bluish reflection; the head and feet gray, the former having

a peculiarly soft, silky appearance, and being tinged towards the vertex with green, which becomes more decided as it passes to the back, whence it flows over the whole body in varying shades, sometimes fading into yellow, sometimes deepening into blue, and even black; a band of this latter colour passes across the forehead of the bird, and a triangular black spot extends on each side, from the base of the beak over the cheek to the throat; a crimson tint pervades the under part of the body. There is a variety of this species with a black beak; it is an agreeable, loquacious, and very docile bird.

THE LUNATED PARRAKEET,

Sometimes called the red-crescented parrakeet, is about the same size as the last species, with a conical tail six inches long, and a deeply indented beak of a whitish horn colour; the forehead, and a semicircular stripe extending from the breast to the neck on each side, are bright red, as are also the lower wing-coverts; the back dark green; the tail and upper wing-covert, siskin green, lined with yellow. This is a lively and noisy bird, fond of screaming and talking, which it does with great distinctness; it is known to have attained a great age in confinement.

THE LITTLE BLUE AND GREEN PARRAKEET

Is about the size of the common sparrow, with an orange-coloured bill, cere, and circle round the eyes, and a green body prettily marked with blue. It is a native of the Brazils and Guiana, is rarely seen in this country, is quite gentle and affectionate, and should be fed on bread and milk, with hemp and canary seed.

AUSTRALIAN GROUND PARRAKEETS.

These birds are of comparatively recent introduction into this country; there are several species, or, perhaps, we should rather say varieties, of them, for they appear to differ only in the colours of their plumage, which are extremely vivid and rich,—such as scarlet, crimson, purple, green, and yellow, from pale primrose to deep orange; they are of small size, very lively, playful, and affectionate; they run along the ground with the same grace and facility as they climb

trees, and hence are called ground parrakeets: the King, the Roselle, the Crimson-shouldered, the Blood-billed, and the Barnard, are names given to some of the varieties. Canary seed and dry crumbled bread is the food that appears to suit them best; millet would, no doubt, be good for them, and the seeds of our native grasses.

CERAM, OR VARIEGATED LORY.

All the lories with which we are acquainted are remarkable for the splendid colours of their plumage; the distinctive marks of this sub-family of the great parrot tribe are not easily pointed out, having more to do with internal structure than external appearance; except to a scientific naturalist, it is not at all obvious why certain parrots should be, as it were, set apart from the rest, and called lories and lorikeets, a name given to smaller birds discovered in Australia and the Pacific Islands, and at present but little known. The species with which we have commenced our account of the lories kept as cage birds in this country, is generally brought from the Malaccas. It is about the size of a pigeon, and has commonly—for individuals vary considerably—a bright scarlet body, marked with green and blue of different shades; the beak is of an orange colour; the cere and circle round the eyes ashy; the vivid green and rich violet tints which play about the plumage, shifting and changing as the bird alters its position in the light, and the predominance of scarlet in its plumage, render this a most gorgeous bird: it is very tractable, and may be treated the same as the ash-coloured parrot.

THE PURPLE-CAPPED LORY.

This also is a magnificent bird, about the same size as the last, and a native of the East Indies. It is distinguished by a cap of purple on the top of the head. Red, green, blue, and orange, are the prevailing colours of its plumage, the first occupying the whole space, except the wing-coverts, which are covered by the second, and have scapular edging of the third tint; the orange is confined to the beak, a band across the breast, and a margin to the tail feathers. The feet are gray. In the female the breast band is wanting, or but faintly traced, and the cap is

smaller. There are varieties in which the rich crimson of the body fades into white and pale rose colour at several parts. Bechstein describes this as "the tamest, most pleasing, and most delicate of all the parrots." It has a hollow voice like that of a ventriloquist, and talks incessantly, piping in clear round tones, and uttering its natural cry, *lory*, loudly and shrilly.

THE BLACK-CAPPED LORY

Is somewhat smaller than the preceding species, which it so nearly resembles that one is induced to look upon it as but a variety. It comes from the same part of the world, and is very rare.

THE SHELL LORY,

Sometimes called the shell parrot, is a beautiful little bird of recent introduction into this country, not bigger than a sparrow, decked in crimson, and purple, and gold, with a tail long and pointed; it is at once gorgeous and graceful. Of the species there seem to be several varieties; but they are all exceedingly rare, so that but little is known about them.

THE GREAT WHITE COCKATOO.

The cockatoos, which derive their name from their usual call-note, have in the crest, and the lighter colours of the plumage, very obvious marks of distinction from the rest of the parrot tribe. The few species with which Europeans are acquainted, inhabit the forests of Australia and the Indian isles, where they feed upon the seeds of various trees and plants, being, by means of their powerful bills, able to break the hardest shells in which the kernels are enclosed. As far as their habits in a wild state have been ascertained, they are similar to those of most other parrots. When taken from the nest at an early age they appear to be easily tamed. Their powers of imitation and utterance are not good; they can seldom be taught to articulate more than two or three words; their extreme beauty and gentleness of disposition, however, render them very desirable cage birds. The above-named species is about seventeen inches long; the plumage entirely white, with

the exception of the large pinion feathers, and those at the end of the tail, which are a delicate yellow, approaching to a primrose. The crest feathers are about five inches long, and can be erected or depressed at will. This elegant bird has a black beak, and a bald circle round the eyes. It may be kept in a large wire bell-shaped cage, furnished with two transverse perches and a moveable ring, on which the bird delights to sit and swing; or it may be chained to a stand, as parrots are often kept.

THE LESSER WHITE COCKATOO

Is about fourteen inches long. It is sometimes called the sulphur-crested, on account of the colour of the beautiful and characteristic ornament of its head. The yellow tint is more observable in this bird than in the larger species, which in general conformation, as well as habits and manners, it closely resembles. It is very playful and amusing, fond of being noticed and caressed; except when excited by pleasure or alarm, the crest feathers are generally depressed, extending over the nape of the neck.

THE GREAT RED-CRESTED COCKATOO.

This is a noble bird, being about two feet long. The colour of the plumage is generally white, with here and there a pale rosy or primrose tinge. The crest is very large, some of the feathers being six inches long; the lower part of it is a bright orange red. The beak and feet are lead coloured, the cere black, and the bald circle round the eyes pearl gray. It is not so gentle as the two last-named species, but has a bold defying aspect. It can be taught to imitate various sounds, especially the cries of animals, and sometimes crows loudly, flapping its wings the while, like a veritable chanticleer; it screams out its own name, *cockatoo!* in a most ear-splitting manner, and every now and then sends out a note like a trumpet peal, which the Germans call *derdeng*.

THE RED-VENTED COCKATOO

Is rather a smaller bird than the last described, being about the size of the ash-coloured parrot. It has a pale flesh-coloured beak, but gray at the base, yellowish-red circles round the eyes, and dull gray feet. It has a small crest, in

shape when erected like a mussel-shell; when depressed it can scarcely be seen; this is sulphur-coloured at the base and white at the top, and two or three of the under feathers being of a bright red gives it a tri-coloured appearance. The white plumage of this bird has here and there a dash of sulphur, and the whole of the belly is red, together with the under-tail feathers. The other cockatoos, of which we have spoken, generally come to Europe from the Moluccas; this is most usually brought from the Philippines; it becomes very tame, but does not learn to speak. It does not call its own name like the rest; but shouts horribly an indescribable sort of sound.

THE BANKSIAN COCKATOO

Is the rarest and most costly, as it is also the handsomest of these crested birds. It is sometimes as much as thirty inches in length; the prevailing colour of its plumage is black, the feathers being many of them edged and spotted with golden yellow. A portion of the tail is a rich crimson, which merges into orange, and is crossed by five or six irregular bars of black; stripes of bright and dark yellow go wavering across the darker plumes like tongues of flame, and a spot of the same colour terminates each of the crest feathers. There are two or three varieties of this superb species, which is a native of New Holland; its manners resemble those of the other cockatoos, like which it should be treated.

GENERAL TREATMENT OF PARROTS.

Having thus brought our account of the various species of this gorgeously attired family of birds to a close, it behoves us to give some general directions for their treatment in confinement, as the rules on this head which would apply to most other feathered pets are scarcely applicable to them, they being, as it were, a class *sui generis*, with a nature and habits peculiar to themselves.

First, then, let it be observed that they are, with scarcely any exceptions, natives of tropical countries, where vegetation is abundant and the heat intense. God made them with a nature fitted for such climates: they must have fruit,

both pulpy, like cherries, grapes, and pears; and hard, like nuts, and the kernels of our native plums, peaches, &c. They must have water to drink and bathe in; as much sunshine as can be given them; and, above all, they must *be kept warm*. The room which they inhabit should always have a fire if the weather is at all chilly; and it is best, at all events in winter, to cover their cages at night with a cap of green baize or flannel. Encourage them to take as much exercise as the limits of their prison will allow: if chained to a perch, which is the best mode of keeping the larger kinds, let their chain be of a good length, and as light as a due regard to strength will allow: it must be of metal, or they will soon sever it with their powerful mandibles. If you can give them an aviary well stocked with orange and myrtle trees, and other plants which are indigenous to warm climates, and supplied in the winter with flues and other contrivances for increasing the temperature, so much the better, as this is the nearest approach to a state of liberty which can be made.

Let all that you do to these birds be done with gentleness and kindness; on no account threaten or attempt to chastise them; gain their confidence, win their affection, and you may do anything with them; frighten them, or arouse their anger, and all your efforts to teach or train them will be unavailing; they will be either shy and timid, or sullen and spiteful; your caresses they will reciprocate, and if you please them will endeavour to please you; and they will also return in kind, as far as they are able, any ill usage to which you may subject them. In this respect bird nature is pretty much like human nature; but there is this difference in the cases; the unfeathered biped, if punished, may be made to understand the reasonableness of it, and be reconciled to the infliction, because salutary, though bitter: the feathered biped cannot. We have dwelt longer upon this part of our subject than may to some seem necessary, but we have done so from a conviction that much suffering has resulted to domesticated birds, and parrots especially, and much annoyance and disappointment to those who have kept them, from want of a due regard to the feelings and predilections of these beautiful and often wayward creatures. Children are frequently suffered to teaze and annoy them, servants to

scare and frighten them: tempting morsels are offered to them and withdrawn, to see what pretty rages they get into, dogs are set to yelp and jump at them, and all sorts of positive cruelties perpetrated, to say nothing of the negative ones of neglecting to minister to their wants and comforts regularly and effectually.

Nothing, perhaps, conduces to the health and vivacity of a parrot more than cleanliness, and yet how often is this grievously neglected to save a little trouble. Not only should this be strictly attended to in the dwelling, but also in the person of the bird. The feet should be carefully washed from impurities, and the plumage occasionally syringed with warm water, if the bathing is neglected, or fails to remove any defilements contracted. All parrot cages should have a grating at the bottom, and a drawer supplied with sifted gravel or very coarse sand, which should be put in fresh every other day. This grating and the perches should be occasionally scraped, and the cage itself thoroughly cleansed about once a month, taking care that it is quite dry before the bird is put into it. The water should be fresh every day, and also the food of a moist nature. And with regard to food, we would fain offer a few remarks supplemental to those included in our accounts of the several species.

Bread and milk is generally the staple prison diet of birds of this kind, and it should be thus prepared: first, cut the bread in slices, and pour over it warm water; let it soak a short time, and then squeeze it as dry as possible; then allow it to absorb as much fresh boiled milk as it will without being too moist: this kind of soft food should not be exclusively used; an occasional change is necessary, and this may consist, for the larger kinds, of biscuits broken small, farinaceous grain, nuts of any kind, except bitter almonds, and fruit, both hard and soft; Indian corn is good, but this should be boiled first, drained dry, and suffered to cool. For the smaller kinds, also, a little fruit, with hemp seed, canary seed, and millet, &c.

Zinc and pewter food vessels are sometimes used, but these are liable to be acted on by the moist food, especially if at all acidulous, and render that which should be nutritious highly pernicious. Glass and earthenware are the best

materials, for obvious reasons. We will now devote a little space to the consideration of the

DISEASES

to which parrots are especially liable:—Irritability, and a desire to pluck out the feathers, is occasioned, as we have already stated, by giving these birds animal food, which should always be carefully avoided; it is altogether unnatural to them, they being, with two or three exceptions, purely frugivorous and granivorous birds. When this mistake is made, and its bad effects follow, apply to the body of the sufferer a lotion made of common salt dissolved in spring water, once a day, and give it nothing but bread and milk to eat for a time. Several internal diseases may be prevented by giving about once a month a few of the pepper pods called chilies, cut into pieces; these the birds will eagerly swallow, as if they knew they were designed for a salutary effect.

ASTHMA is a disease with which parrots are, perhaps, more frequently attacked than any other bird; its *causes* are, a cold caught through being allowed to remain in a draught of air, or an undue proportion of hemp-seed in the food, this being of too heating a nature to be given constantly; its *symptoms* are, shortness of the breath, and a frequent expansion of the beak when the bird is in any way excited; its *remedies*—extra warmth, change of food, if that previously given has been chiefly dry, now let it be moist and warm: in severe attacks, give a paste made by boiling a piece of white bread about the size of a walnut, in four tablespoonfuls of milk, stirring with a wooden spoon until it becomes an even pulp; mix with it a few grains of cayenne pepper, and keep the bird entirely on it for two or three days; it must be prepared fresh as wanted, as if at all sour, it will prove injurious; as an aperient, give also about twice a week a small portion of lettuce or water-cress.

ATROPHY or WASTING, generally *caused* by the administration of improper food. *Symptoms:* body becomes emaciated; feathers rough, and disarranged; disgorging of the food: treatment similar to that above recommended, with the addition of a rusty nail put into the water.

CONSUMPTION or DECLINE.—No assignable *cause*: loss

of appetite, swelling of the lower parts, and falling away at the breast, are among the *symptoms:* a bread and milk diet, with seed about twice a week; no water on the seed days; juice of white turnip to drink, and a chili or black pepper-corn occasionally, are the best remedies; if taken in good time, this disease can generally be cured, and when not, the patient will often live many years with proper care and attention.

Convulsions, or Fits.—The lories are most subject to these: take the bird up immediately; open the beak, and put into it a few drops of cold water; if this does not restore it to consciousness, plunge it suddenly into a cold bath; this failing, draw out one of the tail-feathers, and lay the patient on some cold substance, such as stone or iron: you have then done all you can for it. If recovery takes place, wrap the bird in flannel, and put it in a warm place until thoroughly dry; afterwards feed it for some time as directed for asthma; and give it a few drops of spirits of nitre occasionally in its water.

Costiveness may be detected by frequent and useless efforts of the bird to void its excrements. *Remedies:* a bread and milk diet, with a few shreds of saffron boiled in the milk; if this is not effective, give about four drops of castor oil, and introduce into the vent the head of a large pin dipped in linseed oil.

Diarrhœa, or Scouring.—The *cause* of this disease is generally some sudden change of diet, or stale or improper food, such as unripe fruit, &c.; the symptoms are frequent evacuations of fluid chalky matter, which adheres to the vent and lower part of the body, and causes great irritation in the parts. *Remedies:* keep the bird unusually warm, feed it with soaked bread and Indian corn boiled in a decoction of lettuce seed; anoint the irritated parts with palm oil, and give water impregnated with iron to drink, mixed with a small proportion of milk; chilies are also good in this complaint, and the yolk of hard boiled egg.

Diseased Feet often result from want of attention to cleanliness, and sometimes from what we should be inclined to call gout, or rheumatism, occasioned by cold settling in the extremities. In this state the bird is unable to grasp the perch properly, and becomes restless and uneasy; it

should be at once taken out of the cage and put into a smaller one, where there is no space for climbing; a tin vessel should be placed at the bottom supplied with luke-warm water for the patient to stand in for about a quarter of an hour, care being taken to keep up the temperature; when the time has expired, substitute a dry board, and place the cage in a warm situation for the feet to get thoroughly dry; if any sores are observable, they should be sprinkled over with a little powdered loaf sugar; the bath should be repeated daily.

Diseased Eyes may proceed from a cold and various causes; when looking sore and inflamed, they should be washed with a warm infusion, made by pouring boiling water over the bruised root of white hellebore; take care that the bird does not drink any of this, as it is strongly poisonous. When thus affected, a little juice of red beet-root given as a drink is serviceable.

Inflammation.—A sudden change of temperature will not unfrequently cause this disease, which too often results from want of proper care in covering the birds at night; the symptoms are dullness and inactivity, with a disposition to sleep early in the day, and an appearance of swelling and redness of the veins in the belly. *Remedies:* bread and milk and oatmeal grits well boiled, yolk of egg boiled hard, Indian corn boiled in an infusion of rape-seed about twice a week, especially if the bowels are relaxed; remove all the food at night, and place in its stead a little magnesia mixed with water; put it in a shallow vessel, as the magnesia sinks to the bottom, and leaves the water clear; remove this in the morning after the patient has taken a dose, which he will generally do early, and give the food as above directed.

Moulting with parrots, as with other birds, occurs once a year; the tail and wing feathers are sometimes shed oftener; the moult usually lasts from two to three months, and is often attended with great pain and difficulty. At this time warmth and extra nourishment is indispensable. The following alternation of diet is recommended by one who has had much experience in these matters:—Hemp-seed, Indian corn, canary-seed, given separately, each twice a week; bread and milk, with a few chilies cut small, and mixed

once; on the seed days a little saffron steeped in the water: should the difficulty of shedding the feathers be very great, give captains' biscuit, soaked and made hot with cayenne, about three times a week, and put some stick liquorice in the water. If the moult goes on quite favourably, and the bird appears cheerful, but little alteration from the common diet need be made; warmth is the grand requisite.

Surfeit.—This is usually the effect of stale food, or impure water, want of gravel, or sand, or some neglect of cleanliness; it shows itself in eruptions about the head, which discharge an acrid humour, which, if not washed off, will make the parts over which it flows quite bare of feathers. A solution of common salt in spring water is the best application, wiping the parts perfectly dry after it, and anointing them with palm oil. The diet should be scalded bread and ground rice mixed with milk, in which has been boiled a little stick liquorice. In this case, also, warmth is the one thing needful.

Tumours.—Fleshy excrescences so-called sometimes appear without any assignable cause; they may be removed when they have attained a considerable size, by passing a piece of strong silk round them close down to their junction with the part to which they are attached; tie the silk so that you can gradually tighten it; this do, and the tumour will eventually wither up, and drop off, without giving much pain to the bird.

Vermin.—The best remedy is the white precipitate lotion, recommended for canaries, used with all due caution, on account of its poisonous nature.

THE END.

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